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SIXTY-NINTH ANNUAL CONGRESS OF THE NATIONAL VETERINARY MEDICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND EASTBOURNE, September 23rd to 29th, 1951

Presidential Address*

BY

MR. S. F. J. HODGMAN, M.R.C.V.S.

(DIRECTOR, ANIMAL HEALTH TRUST CANINE RESEARCH STATION, KENNETT, NR. NEWMARKET)

Ladies and Gentlemen,

Paradoxically it is by long custom the privilege of your President to discard to some extent his more formal presidential responsibilities at the very moment when they lie most heavily upon him. His presidential address is given in the midst of the Association's Congress which is the climax, as it is the culmination, of his presidential career. Custom has endowed him with the privilege of free speech. He may express his own views on any matter of material concern to the profession, or present the Association with a brief review of the work accomplished during his year of office.

For myself, I think the first type of address is the more useful, since the fearless expression of personal views and considered opinions is an essential stimulus to progress in any intelligent body. Many of you may disagree with me, but it would be a dull life if we all thought the same.

In this lean and hard-pressed world to-day, it is accepted as a bitter truth that the most urgent world problem is the provision of adequate foodstuffs for the ever-growing human population. Much publicity is given to the necessity of stopping the wastage of soil-erosion, for bringing desert and marginal land into full production, for reclaiming derelict land all the world over. I am the last to deny the importance of such work, but I do insist that insufficient emphasis is laid upon the vital necessity to control the ravages of animal disease and to encourage an enlightened attitude towards the essential increase in the productivity of our food-producing livestock.

These are urgent times and, if we do not sound our own trumpet, nobody else has breath to do so for us, so I am going to perform a brief voluntary upon that instrument.

No thinking person will deny that a sufficient supply of animal food is a vital necessity to man. It therefore follows that the work of the veterinary profession has never been of greater value to the human community than it is to-day. (Hear, hear.) I would never depreciate the work of our predecessors, but change and growth are necessary conditions of life, and our profession can look back on both. It has responded through the years to every changing need of the community; in the heyday of the horse it did great work for the nation's transport and, as the importance of the horse declined, with rare elasticity it turned to the care of farm livestock and the smaller animals. Whatever opportunities it has seized have been turned to good effect in the interests of the profession itself and of the community it serves.

Let me remind you of a few examples. We have helped to eradicate the major cattle plagues from certain areas of the world, namely, our own country and some of the territories within our Commonwealth, and recently we have made important headway in the control of the more insidious diseases of dairy stock, such as tuberculosis, contagious abortion and mastitis.

Over the last century the profession has raised its standard of education almost continuously, and latterly it has taken the decisive step of bringing this part of our professional life largely within the Universities.

We may take just pride in the services rendered to the nation by our colleagues in local authority and State spheres of work, including the Colonial and other overseas veterinary services. The Veterinary Division within the Ministry of Agriculture has made important strides on the road of progress and achievement, notable amongst these being the development of specialist services such as the Veterinary Investigation Service and those for which the Sheep and Sterility Officers are responsible.

Furthermore, there has been a considerable increase in the amount of research being undertaken by members of the profession within Government departments, Universities, independent organisations such as the Animal Health Trust, and various industrial firms.

Nor must I deny to the general practitioner his just place in the march of progress. The once narrow scope of private practice has enlarged enormously. Farm livestock is receiving the benefit of the most modern development in the treatment of disease, hygiene, management and breeding, while small animals have assumed their just importance. At one time this branch of our work was looked down on with a more or less good-natured contempt by the majority of private practitioners. Even to-day a few die-hards sniff at " dog and cat specialists " despite the numbers and value of these animals to our family life of to-day. Small-animal work still provides the most important training-ground for our students, adding to their practical scientific knowledge of comparative medicine. Besides, there are many general practitioners in country districts who would find it difficult to maintain their practices if it were not for the addition of their small-animal work. Many notable advances in surgery, with human or animal, first came from small-animal practitioners, and in

* Presented to the Annual General Meeting, September 26th, 1951.

the surgical field generally our progress has been rapid and assured. Operations that, not so many years ago, were regarded as impracticable, or at best left to the specialist, have become a commonplace of general practice. Surgery has always been my particular field and with 20 years of general practice behind me, I can look back on remarkable advances both of knowledge and technique.

I should like here to put it on record that, in my opinion, the fees charged on the average in private practice are far below both the merit and the value of the services given. To-day the value of all animals has greatly increased. Good breeding in all kinds of livestock is demanded—even the family dog must have a pedigree behind it—yet the public as a whole seems to think that veterinary fees should be no higher to-day than they were 50 years ago when everything from drugs to transport was cheaper. Only when our specialised position and skill are generally recognised can we charge a fee commensurate with the value of our services.

I know the reply often made to this—" the public won't pay higher fees, a reputation for low charges brings in more clients "—but is this so? Before the war in a certain French town there lived a butcher famous for his sausages. A big co-operative butchery opened a rival shop opposite him with a notice in their window—" Sausages 40 centimes a kilo. To pay more is to be robbed." The old butcher countered with the notice—" Sausages, 50 centimes a kilo. To pay less is to be poisoned." (Laughter.)

We are a small profession numerically and, therefore, we must publicise ourselves. There is a Hindu saying —" Who begs in silence, starves in silence." Silence may be dignified but it is not going to get us anywhere, whereas the right kind of publicity will. Remember I said " the right kind." Let it be dignified, judicious, well-chosen, timely, but publicity for all that.

Now in direct ratio to the rise in importance of the profession's work there should be a rise in its status. The veterinary profession has never stood higher in its usefulness to the British public, but its public recognition still falls far short of its just deserts.

The blame for this must be laid to a great extent at the doors of ignorance and prejudice, but we as a profession must acknowledge our own guilt, due to our reluctance to develop in ways which, by modern standards, are essential to any important group within the community. The advance of the profession continues and must continue if mankind is to climb out of the Valley of Want on to the Hilltops of Plenty, but I cannot help feeling that we have missed many opportunities that, had we accepted them, would have made our public services even more obvious to our fellow countrymen.

Speaking broadly, I would say that our greatest failure has been to create specialists for the border-line sciences and for the no-man's-land between our accepted work and that of others interested in livestock and products of animal origin. In this country we have not so far assumed our rightful place in the control and inspection of meat and milk supplies, work that in America is entirely in the hands of veterinarians. Too often, indeed, our advice on such matters has not even been sought, when it would certainly have been valuable and might well have saved the public from the consequences of Governmental blundering. Typical examples are the importation of fowl pest and the failure of the Gambia Poultry Scheme of the Colonial Development Corporation. This failure to create the opportunities for the giving of advice at the appropriate time can be seen not infrequently in the developments within the Colonial Service, the Veterinary Officers of which often are never consulted, and yet more often their advice is not taken. The status of our members in this, as in the Animal Health Division of the Ministry of Agriculture and Fisheries, is far from satisfactory but for widely different reasons. In the Animal Health Division the salaries are so inadequate that recruitment is almost at a standstill.

Again we have neglected, until quite recently, to encourage members of the profession to undertake research in the natural sciences. How many members of the profession are consulted on problems of genetics, livestock breeding and rearing, animal husbandry, nutrition, biochemistry and physiology? Even in the stricter fields of bacteriology, pathology or surgery we can count few who are accepted as world authorities. While we may excuse ourselves from securing participation in these developments on the grounds of shortage of personnel, for myself I consider that our weaknesses arise from two other factors, namely, a tendency to isolate ourselves as a profession and a lack of vision. We have omitted to provide the public with the veterinary services which are surely essential if our animals are to be adequately looked after under modern conditions. We should have created within the profession a properly organised hospital and consultative service ranged alongside the general practitioner. Another service that we should have provided is one for animals in captivity in our zoological gardens.

Finally, I believe that the profession has failed to give to the public guidance in an educational sense, for surely the community should expect from the profession reasonably popular advice on the management of animals, the selection of foodstuffs and the prevention of the spread of disease from animal to animal and from animal to man.

This neglect is the more serious because the profession is confronted with the danger, or rather the challenge, embodied in the policy of certain animal welfare societies and commercial firms. Some of these have for many years brought out booklets for the use of animal owners, giving advice on feeding, hygiene, general care in health, and the treatment of minor disorders, and even booklets on first aid. Many of these booklets are of real value and each one constitutes a popular advertisement for which the public, and not the advertiser, pays. In fact, most animal welfare societies have reduced publicity to a fine art, and if you think I exaggerate, look about you in your own district. The profession has never obtained sufficient public recognition for the fact that almost all of its members will, either gratuitously or for modest fees, treat the animals of the deserving poor. (Applause.) When I was in practice I gave to poor clients my skill, my time, the time of my nurses, the use of my premises and drugs, for fees that did not cover even my surgical dressings—and I am no exception.

Although I am critical of the profession for its failure to seize opportunities in the past, I sincerely believe that there have been important changes of recent years that lead one to hope that these omissions may yet be made good.

In the educational sphere, I have already paid tribute to the progress that we have made and particularly to the recent changes following upon the recommendations of the Loveday Committee. There is no doubt that even at this early stage the status of our colleagues in academic circles has been enhanced by their inclusion within the Universities. Progress has already been considerable in the development of research. There are now facilities for

research at Veterinary Schools, in several departments of the Universities, in the laboratories of the Ministry of Agriculture and those supervised by the Agricultural Research Council, and, also, in recent years, in the Research Stations of the Animal Health Trust.

As you all know, I myself am working for this organisation as Director of its Canine Research Station, but I have been careful never to exploit my position as your President for propaganda purposes on behalf of the Trust. At the end of my year of office I am going to relax this rule.

The Trust is an independent organisation. It is at present employing 16 veterinary surgeons and has assisted 52 graduates and 56 undergraduates.

The various Research Stations are under the administrative control of veterinary surgeons, and here I would emphasise that the Trust is fundamentally a co-operative organisation, enjoying comradeship and good fellowship, and a common enthusiasm for professional development. It can in no way be regarded as a one-man show. In my opinion, the Animal Health Trust is doing excellent work for the veterinary profession, and will do more if the profession will co-operate fully. We have given many undergraduate grants, we are giving research training scholarships to recent graduates and research fellowships to those with some post-graduate experience. These latter enable the fellows to enjoy a period of advanced training and research, within bodies of University status. Such benefits are entirely free and carry no obligation to join the Trust at their conclusion. The establishment of Research Stations applying their work to a particular branch of the livestock industry has created a further stimulus to the development of veterinary research.

In its post-graduate scheme the Trust has also stimulated an approach to the problem of the zoological gardens. About a year ago a veterinary graduate was appointed to undertake research at the Royal Zoological Society of Scotland, and more recently I believe another veterinarian has been appointed to the Zoological Society of London. This development of veterinary specialists in the various allied sciences must result in a broadening of the scope of the profession's work, and inevitably will lead to a greater appreciation of our worth by other scientists.

A hospital and consultative service seems to me to be essential if our general practitioners are to be able to maintain their independent services to the community. Already they are receiving on the one hand large proportions of their earnings for State work supervised by the Ministry of Agriculture, whilst on the other, they have growing competition from the hospitals and clinics of the animal welfare societies.

Let us not be blinded by prejudice but acknowledge freely that many of these societies are well administered; they are reasonably wealthy and nearly all have a nicely arranged "shop window." In sentimental appeal they have, of course, a pull over the hard-working but less picturesque general practitioner. Besides this, human nature being what it is, the average citizen when using the services of a welfare society, has at the back of his mind a comfortable feeling that he is getting something in return for his generously subscribed pennies. He often has a rather smug, bread-upon-the-waters sensation, and he loves it, even if his loaves return to him only as a few worm capsules or a mild sedative. (Laughter.)

In face of this unfair competition, the small-animal practitioner has only one resource—a properly equipped hospital service working in full co-operation with the profession, accepting only patients coming through the general practitioner. Such a service, widely distributed and used by every private practitioner in the country, would be an answer to the deficiencies of a service organised outside the profession. Furthermore, it would have behind it not only a consultative service, but a laboratory service with modern equipment and trained staff.

It is for this reason that I, personally, am convinced that the hospital service mooted by the Animal Health Trust is one which should be encouraged, and indeed urgently demanded, by the profession. I can assure you that the Trust is willing to begin this service only if the profession agrees to play its full part within it. The Trust will not initiate any hospital animal service unless this is run upon proper ethical lines, in full co-operation with general practitioners and the profession generally, and this service, if it comes into being, will be designed to assist the practitioner and not to compete with him. If it is not required by the profession, then it is unlikely ever to be started.

The other development which seems to me urgent is that the profession should take its full share, and accept its full responsibilities, in a service for the control and inspection of meat and milk. It is clearly a national disgrace that we, alone amongst the leading countries of the world, have failed to appreciate that this service should be carried out by veterinary surgeons, albeit the task of the veterinarian is in many instances one of supervision. I met some veterinarians who came over during the late war, and when they had overcome their natural good manners I got some startling opinions from them in reference to the control and inspection of food of animal origin in this country. Incidentally, this led the Americans to import most of their foodstuffs and their troops were warned of the dangers of our milk supplies. They were utterly unable to appreciate how a meat inspection service can be as haphazard as that at present in being in this country to-day, and how it can be allowed to continue estranged from the service designed to control diseases amongst our livestock. In any progressive country but this, such a state of affairs would be regarded as evidence of a very low standard of national administrative development.

A further service which I have indicated until quite recently we have refrained from giving the public, is that of making ourselves and our work known and of translating as much of it as possible into readily intelligible form, so that the public themselves can raise the standards of management of our livestock, improve their health and the quality of their products, and thereby lessen the amount of animal suffering.

Our failure to develop along these lines has been due in part to a far too narrow ethical code. This code was good in its inception and fitted our needs when the activities of the profession were so much more restricted than they are to-day. With the expansion of our work and national usefulness, however, this code pinches us like an out-grown shoe. May this not be due to a tendency to forget that the care of our professional behaviour is a duty placed upon us in the interests of public welfare? It must not be an instrument of narrow professionalism. (Hear, hear.) To my mind, the profession should be encouraged to play its part in popular education—giving lectures, entering into discussions, broadcasting and participating in parliamentary and other debates.

I will go even further; in my opinion, the profession should do more in the writing of books and in the presentation of articles and letters to the Press. We should

also accept our responsibilities to assist in cognate fields of work by sharing in the activities of important national organisations. The undertaking of this task should not be so impossible to us since about one-third of our members are not in private practice and cannot, therefore, expect any personal gain harmful to the livelihood of a colleague.

To my mind, a narrow code of professional ethics can do untold harm to the practising members of the profession, whilst a general growth of public appreciation of our services arising from these forms of public relations work can only result in the enhancement of the status of the individual practitioner and his work.

In conclusion, ladies and gentlemen, it seems to me that the profession stands at a cross-roads; it has come to the end of an old path which branches out into three roads along one of which it must travel into the future. The most enticing and easiest of these is the tempting descent to nationalisation. Some of you may favour this development, but to my mind it would be equivalent to a sentence, not of death, but of bondage. (Applause.) I can readily understand that a war-weary and devitalised people might barter their souls for the apparent security offered by State control. A nationalised veterinary service may appeal to the farming community, who already receive so much by way of subsidies; although they fail to appreciate the fact, it would be a step towards the nationalisation of agriculture. To some in the profession it might appeal as a solution of the problem of steadily increasing costs of drugs, instruments and salaries.

It is true that, in the past, we have regarded ourselves as being a highly individualistic profession. We have indeed prided ourselves on this individuality, this independence of thought which has contributed both to our growth in professional stature and to the great services which we are now able to render not only to the farming community, but to the general public. None the less, unpalatable as it may be for us to admit it, a large number of practices are receiving a Government subsidy in the form of substantial L.V.I. fees. If you are tempted to feel that this is not a subsidy, then consider for a moment the position in your own practice if no such Government work were forthcoming. It would mean, in effect, that one or more assistants would have to be dismissed and that there would have to be drastic upward revision of fees charged for private work.

In other words, to put it bluntly, we have to realise that a considerable proportion of our colleagues are at this moment semi-nationalised. It is time we faced this situation and pondered as to whether this is really in the best interests of the profession.

It is pointless to say, as is too often said, " it cannot happen to us." It could, all too easily, as both the doctors and dentists have found. It is also pointless to say " we could not conceive a workable scheme," because the possibility is that we should be presented with a *fait accompli* and told " now you must make it work." I am convinced that it is quite contrary to the public interest that this honourable, progressive and virile profession should be emasculated by the strictures of nationalisation and it is up to those who feel as I do to ensure that such a tragedy never befalls us. Freedom is a gift which is precious and to-day more so than ever because there is less and less freedom in a world which has given up its initiative in return for the specious promises of the planners.

You all know Aesop's fable of the thin wolf and the fat dog—" my master feeds me," says the dog, " come with me and he will be your master too." " What's that round your neck ? " the wolf asks. " A collar, my master ties me up by it." You remember the choice the wolf made. When I look round at some of the grey old wolves of our profession I have great hope that the State will not find it too easy to put a collar and chain on us. (Applause.)

The second possible road seems to me to be a *cul de sac*. It is the continuation of our past policy of isolation and refusal to co-operate with others. Under modern conditions this must result in our being encroached upon more and more by Livestock Officers, dairymen, Sanitary Inspectors and new ancillary services devised by bureaucrats.

So we come to the third path—that is the one which I think we should follow since it offers us the widest possibilities of service to the public and to ourselves. Let us grasp every opportunity of usefulness by seeing that we provide the services for all species of domestic animals and accept our full responsibilities in adjoining territories. We must have our professional hospital and consultative services, we must play our full part in meat inspection and in the supervision of production and distribution of milk, and we must assist fully in livestock production. We must be adequately represented in the various branches of science, in the services of the Press, in broadcasts and in Parliament and we must, above all, see that our work is efficiently grounded upon true knowledge, thoughtfully applied and brilliantly executed. The weight of a great responsibility lies on our profession and upon veterinarians all the world over, but it is not by shirking our responsibilities that we can achieve our just place in the community. On the contrary, let us demand yet heavier burdens as our right and so bear them that no man and no Government can deny us our well-earned destiny. (Loud applause.)

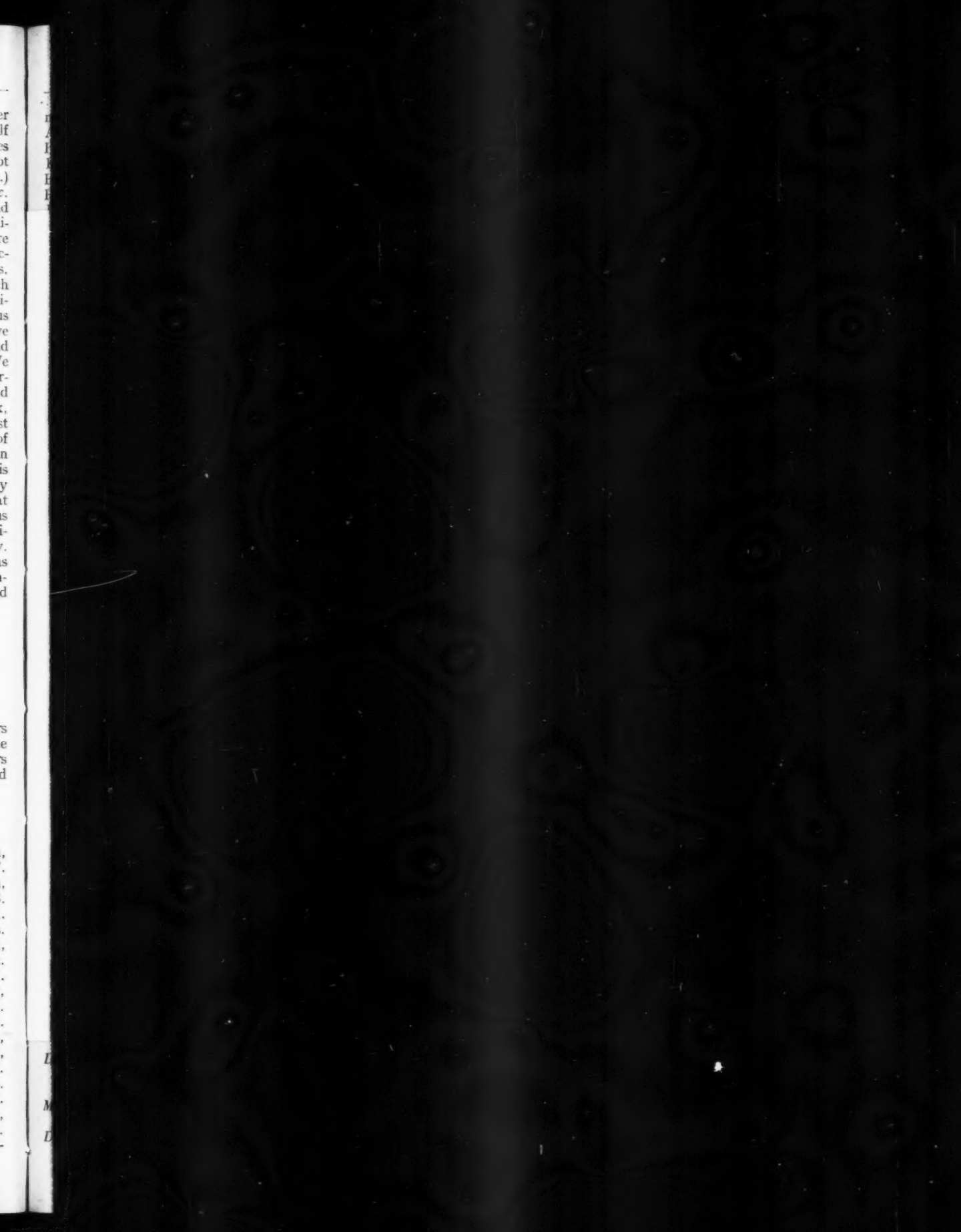
Congress Attendance List

We give below the recorded list of delegates, members and visitors who attended the 69th Annual Congress of the Association held in Eastbourne. The names of members who also were delegates are included in the section devoted to the latter.

MEMBERS

(Exclusive of Delegates)

Messrs. S. F. J. Hodgman (President), C. G. Allen, J. A. Anderson, L. G. Anderson, G. Atkinson, D. F. Balls, J. R. Barker, J. Barr, N. M. Barrie, A. J. Beeson, G. W. Begg, R. L. Bell, G. R. Benbow, Professor W. I. B. Beveridge, Messrs. A. G. Beynon, N. M. Black, J. H. Blanchard, J. A. Boyd, Miss W. M. Brancker, Messrs. G. C. Brander, P. S. Bridge, P. L. Brown, W. Brown, J. W. Bruford (Vice-President), H. E. Bywater (Hon. Treasurer), J. Cameron, Dr. J. Carmichael, Messrs. W. K. Carnegie, W. H. Chase, T. A. R. Chipperfield, E. Clark, H. M. Clark, N. M. Clayton, N. Comben, Miss M. B. Cooper, Messrs. H. A. Crawshaw, F. A. Crowhurst, P. E. Curtis, J. A. Dall, Sir Thomas Dalling, Mrs. B. B. Daniel, Mr. W. J. Daniel, Dr. G. O. Davies, Mr. A. H. Dawson, Major J. J. Dunlop, Mr. J. B. Edwards, Dr. J. T. Edwards, Dr. S. J. Edwards, Mrs. R. Eden, Messrs. R. C. U. Fisher, J. A. Flynn, C. A. Foden, E. J. H. Ford, W. Forgrave, Miss M. J. Freak, Mr. F. C. Gillard, Professor R. E. Glover, Dr. W. S. Gordon, Messrs. G. N. Gould, A. M. Graham, J. C. Grant, A. Greig, Dr. O. V. Gun-



N.V.M.A. ANNUAL CONGRE

CONGRESS, EASTBOURNE, 1951

Photo: Harry Deal, 41a, South Street, Eastbourne

ning, Messrs. F. B. Halpin, J. L. Hancock, H. E. Harbour, A. S. Harris, Mrs. M. L. Harris, Messrs. P. S. Hastie, H. F. C. Hebeler (Hon. Secretary), G. P. Heslop, Brigadier A. G. Heveningham, Mr. H. R. Hewetson, Lieut.-Colonel J. Hickman, Messrs. P. G. Hignett, S. L. Hignett, P. C. Hill, Mrs. D. Howell, Messrs. D. K. Hunt, W. K. Hunter, J. M. Ingram, F. V. John, B. R. Jones, Mrs. K. G. R. Kelly, Messrs. A. K. Kennedy, G. F. Kershaw, Major A. A. Kidd, Major H. Kirk, Messrs. D. A. Lake, H. A. Lamont, Major C. J. R. Lawrence, Mr. D. A. Lemon, Miss M. L. Levie, Messrs. D. MacLeod, D. A. MacPherson, J. B. Makinson, Mrs. J. M. Makinson, Messrs. P. G. Malkani, P. A. Mathew, N. H. Mathieson, M. R. McCrea, Dr. J. McCunn, Dr. A. D. McEwen, Mr. J. McIndoe, Dr. W. M. McKay, Messrs. W. R. McKinna, A. McLean, Miss R. McLelland, Messrs. J. McLintock, D. R. Melrose, Professor W. C. Miller, Mr. J. M. Mitchell, Dr. R. F. Montgomerie, Messrs. A. T. Morgan, K. G. Morgan, S. J. Motton, O. Murch, C. T. Murphy, G. M. G. Oliver, Miss J. Osborn, Dr. C. W. Ottaway, Messrs. H. B. Parry, J. A. Pasfield, E. A. Pearce, J. W. R. Pearce, L. S. Pfob, Miss L. H. Phillips, Messrs. R. N. Phillips, W. A. Pool, Professor L. P. Pugh, Lieut.-Colonel A. G. Ralston, Dr. M. Reichert, Messrs. A. Reid, A. J. S. Reynolds, L. W. Roberts, R. S. Roberts, W. G. Robinson, P. M. Sambrook, G. A. Sangster, J. Scarnell, G. A. M. Sharman, W. Shepherd, H. H. Skinner, G. F. Smith, H. L. Smith, F. E. Somer, A. Spreull, Dr. A. W. Stableforth, Messrs. D. B. Steel, H. J. Steven, Q. A. Stewart, A. Sutherland, E. G. Sutton, P. M. Sutton, R. Swaby, Dr. E. L. Taylor, Messrs. T. R. Thomas, J. K. Thomson, H. C. Thonger, Miss V. Tillemont-Thomason, Mr. A. J. True, Miss O. Uvarov, Messrs. S. B. Vine, F. G. Waddington, C. Watson, R. S. White, J. T. Wickens, E. Wilkinson, H. M. Wilson, W. J. Wilson, W. R. Wilson, Professor G. H. Wooldridge, Professor A. N. Worden, Mr. A. J. Wright (Vice-President), Mrs. J. G. Wright, Professor J. G. Wright.

Overseas Delegates

Dr. L. P. de Vries—representing Dutch Veterinary Association.

Lieut.-Colonel Rolland O. Scott—representing American Veterinary Medical Association.

Mr. R. H. Heywood, B.V.Sc.—representing Commonwealth of Australia
Australian Veterinary Association.

Sir Frank Ware, C.I.E., F.R.C.V.S.—representing High Commissioner for Canada.

Dr. C. S. M. Hopkirk—representing High Commissioner for New Zealand.

Dr. P. A. Malkani—representing High Commissioner for Ceylon.

Representatives of Government Departments

Ministry of Agriculture and Fisheries—Mr. E. C. Lloyd, C.B.E., M.R.C.V.S., Mr. H. T. Matthews, B.V.Sc., F.R.C.V.S., D.V.H.

Ministry of Food—Mr. J. G. McGregor, M.R.C.V.S.

Ministry of Health—Sir Weldon Dalrymple-Champneys, BART., D.M., F.R.C.P., D.P.H., Mr. T. A. Hole.

Department of Agriculture for Scotland and *Department of Health for Scotland*—Mr. J. N. Ritchie, B.Sc., M.R.C.V.S., D.V.S.M.

Ministry of Agriculture, Northern Ireland—Dr. H. G. Lamont, M.R.C.V.S., Mr. H. L. McConnell, M.R.C.V.S.

Department of Agriculture, Eire—Mr. P. A. Rogan, M.R.C.V.S., D.V.S.M., Mr. P. Harnett, M.R.C.V.S., Professor T. G. Browne, M.Sc., M.R.C.V.S., Mr. J. F. Timoney, M.R.C.V.S., Mr. J. P. Nowlan, M.R.C.V.S.

Isle of Man Board of Agriculture and Fisheries—Mr. D. W. Kerruish, M.R.C.V.S.

Army Veterinary and Remount Services—Major J. H. Wilkins, B.Sc., R.A.V.C., Lieut.-Colonel A. G. Ralston, R.A.V.C.

Representatives of Local Authorities

City of Belfast—Mr. A. McLean, B.Sc. (BELF.), M.R.C.V.S., D.V.H.

City of Cardiff—Mr. J. H. M. Hughes, M.R.C.V.S., D.V.S.M., Councillor L. Doyle.

City of Edinburgh—Mr. J. Norval, M.R.C.V.S.

Corporation of Glasgow—Councillor J. Warren, Mr. S. G. Abbott, M.R.C.V.S., D.V.S.M., Mr. C. B. Somerville.

Corporation of London—Mr. E. F. McCleery, M.R.C.V.S., D.V.S.M.

City of Manchester—Councillor Lodge, Councillor Donovan, Councillor Dobbins, Mr. L. Kirkham, Mr. D. E. Orr, M.R.C.V.S.

City of Peterborough—Alderman J. A. Bertram, Captain W. K. Townson, M.R.C.V.S.

City of Portsmouth—Mr. R. Scoular, M.R.C.V.S.

County Borough of Preston—Mr. F. J. Proctor, B.Sc., M.R.C.V.S.

Brierley Hill Urban District Council—Mr. D. J. Anthony, M.R.C.V.S., D.V.S.M., F.R.S.I.

Overseas Visitors Attending in a Personal Capacity

Mr. A. McDowell, B.V.Sc. (Australia).

VISITORS

Mesdames J. Anderson, J. H. Barr, E. S. Bell, M. Brown, B. Bruford, H. E. Bywater, M. W. Carnegie, Mr. J. Chichester, Mrs. N. M. Clayton, Messrs. N. C. Collins, C. G. Connerton, Alderman and Mrs. J. S. Crofts, Messrs. A. W. G. Evans, R. Fishwick, P. W. Franks, G. Freudenthal, A. B. J. Gammon, Mesdames R. E. Glover, G. N. Gould, O. V. Gunning, S. G. Hebeler, M. Hewetson, P. G. Hignett, S. F. J. Hodgman, J. H. R. Kennedy, A. Kidd, C. Lake, Dr. M. Lester, Mesdames M. Mathew, I. Matthews, A. McLean, M. McDowall, Messrs. N. M. McDowall, J. E. Morris, Mesdames D. Motton, C. T. Murphy, Mr. W. G. R. Oates, Mrs G. M. G. Oliver, Messrs. G. Planton, C. J. Price, M. C. Price, Mesdames A. Reynolds, W. H. Sangster, H. L. Smith, J. N. Somerville, M. Standley, Q. A. Stewart, Mr. E. A. Sutton, Mesdames H. Sutton, E. A. Swaby, C. Thomas, Mr. H. W. Tucker, Mesdames M. A. Waddington, J. H. Wilkins, Messrs. F. Wilkinson, W. D. Williams, Mesdames G. H. and W. R. Wooldridge, J. G. Wright, Messrs. J. M. Wright, M. A. Wright, Mrs. M. E. Wright.

Undecipherable signatures	...	...	3
Total attendance recorded	...	...	**277**
Attendance at 1950 Congress	...	...	264

WEEKLY WISDOM

In my judgment it is just those who have been scornful of the past who have been the first to miss their footing in the future; it is just those who praise famous men and ponder over their experience who learn to order their lives aright, and leave the world the richer for their being in it.—REGINALD L. HINE, Quaker historian.

OPENING MEETING AND CIVIC WELCOME

The 69th Annual Congress of the National Veterinary Medical Association of Great Britain and Ireland was held in Eastbourne from September 22nd to 29th, 1951, under the Presidency of Mr. S. F. J. Hodgman, M.R.C.V.S., Director of the Animal Health Trust Canine Research Station, Kennett, nr. Newmarket, Suffolk.

The first function of the Congress was a cocktail party arranged by the host Divisions of the Association—the Sussex and the South-Eastern Veterinary Societies—given in the Grand Hotel on Sunday, September 22nd.

The formal opening of the Congress took place on the following day in the Floral Hall, Winter Gardens, Eastbourne, associated with this function being the Civic Welcome by the Mayor of Eastbourne. There were on the platform supporting the President for this function, Mrs. S. F. J. Hodgman, Mr. J. W. Bruford, Past-President, Mr. Alan J. Wright, President-Elect, Mr. H. F. Hebeler, Hon. Secretary, Mr. H. E. Bywater, Hon. Treasurer, Mr. S. L. Hignett, Local Hon. Secretary, Major C. J. R. Lawrence, Assistant Local Hon. Secretary, and Mr. F. Knight, General Secretary.

The President: It is my pleasure and honour to introduce His Worship the Mayor of Eastbourne who, despite the fact that he is a very busy man, has very kindly come along this morning to open our 69th Congress. (Applause.)

The Mayor of Eastbourne (Alderman R. J. S. Croft): I take rather a dim view of this, I have been away for a week's holiday and this is the first engagement I have had. (Laughter.) However, I am looking forward to seeing many of you to-night at the reception and I hope you will thoroughly enjoy it. (Applause.)

On behalf of the County Borough of Eastbourne I extend to each and all of you a very sincere welcome to the town. Many of you have been here before but if you have not been before you will have a pleasant surprise because we are very proud of our town. I express the best wishes of the members of the Council and we hope that you will find your discussions very successful and very interesting.

I would emphasise the great point of a conference, it does give you the opportunity of renewing old friendships and making new ones and that is one of its fundamental purposes. I was away last week at a conference of the Municipal Corporations Association and it gave me the opportunity of meeting many people engaged in local government. But while you will meet old friends and make new ones, do not stay in this building any longer than you can help. I hope the sun will shine during your stay, that you will see the town of which we are proud and which the Council are determined to maintain at all costs. Despite severe competition we think that Eastbourne has maintained its standard and we have maintained its popularity: so to you, Mr. President, and to all of you here, may you have a very happy stay indeed because we know one of these days you will come back again. (Applause.)

The President: I would express our grateful thanks to the Mayor for coming and giving us such a hearty welcome. Our thanks will be expressed to the Mayor and to the Council later to-day for the facilities they have put at our disposal. We are looking forward to a very happy week and we are going to have it. (Applause.)

The Mayor of Eastbourne: I must apologise for having to hurry away, I have to attend the Bench at 10.30 a.m. May I repeat that I hope to have the opportunity this evening of enjoying your company.

(The Mayor then left.)

WELCOME TO OVERSEAS DELEGATES AND REPRESENTATIVES OF GOVERNMENT DEPARTMENTS AND LOCAL AUTHORITIES

The President then asked the General Secretary (Mr. F. Knight) to read the names of overseas and other delegates attending Congress, each name being welcomed by applause.

(Their names are included in the special section devoted to them in the Congress attendance list published immediately following the President's address with which this issue opens.)

The President: I would like to extend a very hearty welcome to all our visitors from overseas. I hope they will enter into the spirit of Congress and attend our discussions and that each will regard himself as "one of us." There will be an opportunity later for any visitors who wish to say a few words, particularly if they have messages from their own associations.

OPENING OF THE EXHIBITION

The President: The next item is the opening of the exhibition and I will do it from here because after I have done so I hope you will accompany me around to see what the exhibitors have to show us. It is my honour and privilege to welcome the representatives of the manufacturing concerns exhibiting here to-day. I do so most sincerely because, as you are aware, many of these houses are contributing very materially to our success in the field. This Annual Exhibition gives us an opportunity of seeing the latest findings and the chance of talking to old friends and it is always a great satisfaction to me to see so many active and reputable firms exhibiting at our Congress. I wish to take this opportunity of paying a due tribute to them. (Applause.)

It is therefore with great pleasure that I declare this exhibition open.

Presentation to Mrs. Hodgman

Mr. John Lea (Minsal, Ltd.): On behalf of my fellow exhibitors it gives me the greatest pleasure to thank you, Mr. President, for opening our exhibition. This is the one time in the year that the exhibitors or trade side can meet the professional side in close harmony and we do appreciate the opportunity of showing you our wares. I am sure as you go round the exhibition upstairs you will find a great deal to interest you. We on our part trust that you will have a happy and successful Congress and that you feel as you come to the end of your year of office that it has been a labour of love and that it finishes in a halo of glory. With these few words on behalf of the exhibitors, I thank you very much indeed.

We would ask your good lady to accept this bouquet and a little memento of our appreciation. (Applause.)

Mrs. Hodgman: Thank you very much indeed.

The King's Health: Message to the Lord Chamberlain

Before leaving the platform the President asked approval for a message to be sent to the Lord Chamberlain conveying the Association's loyal good wishes to His Majesty the King and expressing a hope for a speedy recovery to good health. This was heartily approved.

(*Continued at foot of column* 1, *page* 753)

NATIONAL VETERINARY MEDICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND

THE 69th ANNUAL GENERAL MEETING

Public Proceedings

The 69th annual general meeting of the Association was held in the Floral Hall, Winter Garden, Eastbourne, on Wednesday, September 26th, 1951, at 3 p.m., with the President, Mr. S. F. J. Hodgman, M.R.C.V.S., in the chair.

The list of those attending the associated Congress will be found following the President's Address at the commencement of this enlarged issue recording the proceedings of the week.

Following is the list of members who sent apologies for absence from the annual general meeting: Messrs. J. D. Blaxland, D. K. Bryson, G. K. Buckler, Mrs. K. M. Bull, Mr. A. D. Campbell, Major C. R. Chadwick (President, Iraq Veterinary Medical Association), Messrs. F. Christopher, L. G. Donald, H. Scott Dunn, Professor C. Formston, Messrs. L. St. Bel Golledge, R. W. Hall, P. J. Howard, S. L. Hughes, S. Jennings, J. S. J. Lauder, T. M. Leach, D. H. MacDonald (Ayr), J. McWilliam, Professor W. M. Mitchell, Mr. G. M. G. Oliver, Dr. J. K. L. Pearson, Professor Alex. Robertson, Messrs. R. F. Ross, K. C. Sellers, J. W. Simpson, R. H. Smythe, H. W. Steele-Bodger, R. J. Thomas, Alex. Thomson (Glasgow), Professor W. L. Weipers, Messrs. J. D. Whitty, A. L. Wilson and Miss C. A. Woods.

The General Secretary read the notice convening the meeting.

President's Address

The President: The next item on the agenda is the presidential address. (The President then read his Address from the chair, which was enthusiastically received. It is reproduced as the introductory feature of this issue.)

Mr. J. W. Bruford (Senior Vice-President): I am sure that it is the wish of this meeting that we place on record a vote of thanks to our President for his very constructive and fearless address this afternoon, an address which I am quite sure will give us all much to think about and that I know is his wish. Therefore I ask you to show your approval by passing a vote of thanks to the President in the usual way. (Applause.)

Meeting Places for 1952 and 1953

The General Secretary: The Council advises that the previous recommendation that the 1952 Congress be held in Harrogate be confirmed and that the annual general meeting and Congress in 1953 be held in Aberdeen.

Mr. Alastair Greig: I am authorised by the President of the North of Scotland Division to tell you that this recommendation will please the members of that Division very much indeed. I can assure you that if this recommendation is accepted we shall do everything we can to make this Congress a success. (Applause.)

Election of President, 1951–1952

The President: It is the unanimous recommendation of your Council that Mr. Alan James Wright be elected to the Presidential Chair for the ensuing year. (Applause.) It is with great pleasure that I make this proposition. In Alan Wright we have a man with an extremely good head and one for whom I personally have the greatest admiration and friendship. We have known one another for a great number of years, we were at college together and apart from the fact that he distinguished himself academically he made a name for himself in the field of sport.

After qualifying he went to Edinburgh to study for his D.V.S.M. but he was unable to sit for the examination because he had to take over the practice at Macclesfield very hurriedly and he has been there ever since. He is now known for his work on cattle, on which he is an acknowledged authority.

Ever since I can remember he has been an active member of the N.V.M.A., he is one of those who has the knack of putting his finger on the spot in any debate. For years he has been a member of Council, Chairman of the Appointments Committee, has served on the General Purposes and Finance Committee and the Technical Development Committee and he has been an active member of the Lancashire Division, of which he has also been President. Apart from these varied activities he is on the Council of the Veterinary Benevolent and Mutual Defence Society and those of us who have had the privilege of working with him have no doubt as to his suitability to occupy the most distinguished office which this Association can offer. The Association should congratulate itself on having the opportunity of receiving the services of such a man in the Presidential Chair.

Therefore, ladies and gentlemen, it is with the greatest confidence and pleasure that I have the honour to propose his election as our President for the ensuing year. (Applause.)

Mr. S. L. Hignett (Frant): It gives me the greatest pleasure to second this proposition. When I first went as a student to the Royal Veterinary College Mr. Wright was in his final year; he was kind and helpful to newcomers and since that time many veterinary surgeons, amongst whom I am proud to number myself, have been grateful for his assistance and encouragement. There is no necessity for me to remind the members of this Association of Mr. Wright's sterling qualities. He has done for us an enormous amount of work, a great deal of it outside the glare of the spotlight. Furthermore, he is a worthy representative of that section of the profession which all but the most biased still regard as the backbone of our profession.

It gives me the very greatest pleasure to second the proposition which the President has proposed, that Mr. A. J. Wright be our President for the ensuing year. (Applause.)

The President: Are there any other nominations? . . . I declare Mr. Wright elected unanimously. (Loud applause.) Addressing Mr. Wright, the President continued: Alan, as I anticipated, you have been unanimously elected President of this Association for the ensuing year and I should like to have the honour to be the first to congratulate you.

Mr. A. J. Wright (Macclesfield): Firstly, I thank you, Mr. President, and Mr. Hignett for the very kind way you have proposed and seconded me for this honoured position, and you, ladies and gentlemen, for the wonderful way you have received and carried this proposition.

Naturally I feel very proud and honoured to be elected as your President. I greatly appreciate the fact that you, my professional colleagues, should judge and deem me worthy to hold this high office.

All I will say at the moment is thank you all. I assure you that I will do my utmost to uphold and maintain the dignity and high standard set by my predecessors and to do everything in my power to further the interests and aims of this great Association and the profession. (Applause.)

The formal part of the opening of Congress was concluded and the members accompanied the President on a tour of the exhibition.

[An account of the Exhibition is given on page 797 of this issue.]

Presentation of the Dalrymple-Champneys Cup and Medal

The President: The cup this year is being presented to Dr. R. Lovell, M.R.C.V.S., D.V.S.M. (VICT.). This award is a unanimous recommendation from the Committee which deals with this matter and it is in recognition of his eminence as a bacteriologist and his work on the *B. coli* type group of infections, especially in regard to the diseases of young stock. I will not embarrass Dr. Lovell by telling him all that was said in Committee when this decision was made. You all know him as well as I do and I am sure that if you had to make this choice there is no one better of whom you would think. (Applause.)

We have with us to-day Sir Weldon and Lady Anne Dalrymple-Champneys, who have come here to make this presentation. This Cup was donated by Sir Weldon and before Lady Anne makes the presentation I will ask Sir Weldon to address you for a few moments.

Sir Weldon Dalrymple-Champneys (Ministry of Health): I am going to try to tell you in a few words the history of this cup and medal. Soon after my wife and I were married I was appointed the first representative of the Ministry of Health to the Annual Congress of the "National" and I was so impressed by the enthusiasm, high scientific standard of the papers and the general atmosphere of that meeting, and also I was so touched, as was my wife, by the hearty welcome and all the kindness we received from you on that occasion and for the way you made us feel that we were a member of your family, although we were not veterinarians, that I felt that I must do something to show my appreciation to you and also to forward the aims of this Association. So I suggested to the President of that time that I should present to the Association a cup and medal, the cup to be held for a year by the person selected, the medal to be held for all time. The award was to be made for the best published work during the preceding 10 years by a member of this Association.

This suggestion was well received by the President and afterwards by your Council and so the presentation was made. The first recipient of the cup was Professor Wright, now the President of the Royal College of Veterinary Surgeons. Many other distinguished people have received the cup and medal since and the President has asked me to tell you something, not only about the inception of this award but also its nature and the terms on which it is given. At first it was given for published work in His Majesty's Dominions within a period of not more than 10 years and not less than one year of the date of the award, which was considered of outstanding merit. After this had been going on for a few years the other members of the Committee, which consisted of the President, myself and a few of the senior members of your Association, and also past recipients of the award—now it has become chiefly composed of past holders of the cup—suggested to me that it might be a good thing, if I were willing, to widen the scope of the award so as to bring in not only published work but make it available for a person who has done good administrative work, or work for the advancement of the profession in any other field. We put forward a proposal to the Council, which they accepted, and an addition was made to the terms so that it is open to those who have done work which may or may not have been published but which it is considered would encourage the advancement of veterinary science.

In consequence the award has been given not only for published work but for administrative and organisational work. It is given for work anywhere in His Majesty's Dominions; it has been given to people in the Dominions and Colonies and people working in tropical veterinary medicine as well as the diseases with which we are familiar in this country. The last award of the cup was to a worker in East Africa. A number of very distinguished people have received the award since it was instituted and it is a source of great gratification to me that the award is now recognised as holding a high place in the profession and which all members of your profession would like to gain. (Applause.)

Lady Anne Dalrymple-Champneys, presenting the cup and medal to Dr. Lovell, said: I have much pleasure in giving you this cup and medal. I am very proud of the great work you have done in your fine profession and I wish you the greatest of luck and success always. (Applause.)

Dr. Reginald Lovell (London): This is a proud moment when my professional brethren honour me as they have done this afternoon and I would only like to mention one remark particularly to Sir Weldon which was passed last week when I walked into the refectory of the University of Manchester and saw a member of this Association. He said, "There is no doubt about that cup, there is no 'hanky-panky' about it." (Applause.)

Non-members and visitors then withdrew.

The Business Meeting

Annual Report and Balance Sheet

The General Secretary: The annual report and balance sheet were presented to the Council at an earlier meeting to-day and were approved for presentation to the annual meeting. It is necessary that I read the Auditors' certificate. (The Auditors' certificate was read.)

Mr. H. T. Matthews (Ewell) moved, Mr. S. L. Hignett seconded, that the report and accounts be adopted and this was carried.

Correspondence

The General Secretary read the message sent to H.M. The King:—

> "At the 69th Annual Congress of the National Veterinary Medical Association the members present wish to convey to their honoured Patron His Majesty the King their loyal greetings and earnest wishes for a speedy recovery. In this hour of anxiety every member of the veterinary profession throughout the Commonwealth would wish to express the deepest sympathy to the Queen and to all the Royal Family."

A reply had been received: "Your telegram much appreciated, Private Secretary." (Applause.)

A letter had also been received from the Private Secretary of the Minister of Agriculture regretting that he was unable, in present circumstances, to spare the time to attend the annual dinner of the Association.

Mr. Anthony Hurd, M.P., had also written regretting that he could not attend.

Election of Vice-Presidents and Other Officers

Mr. J. W. Bruford: The first person to be elected is the Senior Vice-President and I will propose that Mr. Hodgman be Senior Vice-President for the ensuing year.

This was seconded from many parts of the meeting and carried.

The President: I put before you as the unanimous recommendation of Council for the Junior Vice-President and President-Elect the name of Mr. A. M. Graham. (Applause.) In Mr. Graham we have a man of wide experience. He entered the Royal Dick Veterinary College in 1916 and after passing his first professional examination he left to serve his country by joining the Army. After obtaining a commission

MR. ALISTAIR M. GRAHAM, M.R.C.V.S.
PRESIDENT-ELECT, N.V.M.A., 1951-52

Photo: Arthur Hands, Wanstead

MR. HAROLD E. BYWATER, M.R.C.V.S.
HONORARY TREASURER, N.V.M.A., SINCE 1938

he served with the Royal Scots in France and after the armistice he served a short time with the Army of Occupation before returning to Edinburgh to continue his studies. When he had qualified he spent three years in general practice before joining the Ministry of Agriculture and Fisheries. His duties with the Ministry have been many and varied and include many visits abroad.

In moving this proposal from the chair I know that it will meet with the unanimous approval of this meeting and in doing so I would like to remind you that this appointment, apart from the man himself, has some historical significance as when the time comes for him to ascend into this chair he will be the first member of the Ministry of Agriculture's veterinary staff to do so and I am confident you will find that the Association has found the right man.

I am glad to propose Mr. A. M. Graham as Vice-President and President-Elect of this Association. (Applause.)

Mr. G. N. GOULD: I have great pleasure in seconding the President's proposal. In doing so I welcome the precedent which has been created in that a member of the Ministry of Agriculture's staff has been allowed to take up this position which the Association has often had in mind to confer on a member of that staff. I hope that nothing in the future will be allowed to come between such an appointment being made again and we look forward to members of the Ministry's whole-time staff being President of this Association. (Hear, hear.)

There were no other nominations and the proposal was carried with acclamation.

The PRESIDENT: Mr. Graham, you have been unanimously elected at this annual general meeting as our Junior Vice-President and as our President-Elect and I congratulate you most sincerely.

Mr. A. M. GRAHAM (Reading): Thank you very much, ladies and gentlemen, and thank you, too, Mr. President and Mr. Gould. It is a great honour for me, a member of the whole-time staff, to be elected to such high office in this Association and I can assure you I appreciate it very much indeed. I am proud to be one of the first of the Ministry's staff to participate in such a venture. I can assure you that during my year of office I shall do my utmost to support your President and to further the interests of this Association.

Mr. H. E. Bywater was unanimously re-elected Hon. Treasurer, coupled with the thanks of the meeting for his past services, on the proposal of the PRESIDENT, seconded by Dr. A. W. STABLEFORTH.

Mr. H. F. Hebeler (Langport) was unanimously re-elected Hon. Secretary of the Association, the proposition being made by the PRESIDENT and seconded by Mr. J. M. INGRAM (Oxted).

The PRESIDENT, moving the re-election of Mr. F. Knight as General Secretary, thanked Mr. Knight and his staff at headquarters for the efficient, kind and very helpful way in which they had carried out the wishes of Council and its committees during the last year. He had received help on every occasion when he needed it and he would like to thank them most sincerely.

The proposal was seconded by the entire meeting and carried.

Messrs. Fairbairn, Wingfield & Wykes were re-elected auditors for the ensuing year on the proposition of Professor Wooldridge, duly seconded.

The President thanked Mr. Neil Mathieson for the work he had done towards making this Congress a success from the publicity side; he would wish him well in his new venture.

Mr. Knight expressed his personal appreciation and that of the staff for the very kind words of the President. He would like to thank the members for the enthusiastic way they received those remarks and for approving the Council's recommendation of his re-appointment.

Change of Name of the Association

There was a resolution on the agenda as follows:—

> That the special resolution passed on July 30th, 1947, that the name of the Association be changed in 1952 to "British Veterinary Association" be given effect to as from January 1st, 1952.

Before putting it to the meeting, the President asked the General Secretary to read a communication which had been received from the Council of the V.M.A., Ireland.

The General Secretary: The letter is dated March 28th, 1951, enclosing a resolution requesting the Association not to implement the change of name of the Association in 1952. The letter suggests the title "British and Irish Veterinary Association" in place of "British Veterinary Association." After the Edinburgh meeting of Council the Secretary of the Irish Association was informed that the letter had been considered by the Council and that the matter would be considered by Congress. The Council, however, was of opinion that there was no reason why if the resolution was implemented the Irish Association should not be associated with the Association if it so desired. A further letter was received in reply stating that no difficulty was visualised for individual members but it was the position of the Association itself which would be difficult.

The President: The question is whether this change of name shall take effect on January 1st, 1952.

Mr. E. B. D. Hall (Wiveliscombe) moved that the change take place. It should have been done 15 years ago but the same objections came from Ireland and the matter was dropped. He did not see why they should object to it.

Professor J. McCunn (London) seconded. This matter, he said, had been going on ever since Llandudno and it was time a decision was made.

Mr. Campbell Hill (Llanelly) said that the difficulty was political and this would put their Irish brethren in a very queer position which might cause them to separate themselves entirely from the Association. It was the duty of the profession, having brought them in by the letter of 1881 and by the action of the Royal College of Veterinary Surgeons, to do everything to keep the Irish practitioners inside the Association. The N.V.M.A. was their trade union and would be required to support them very often, and the support of the Irish Association would be needed in any difficulty which arose in this country. Therefore the meeting should consider carefully what it was doing.

Mr. H. F. Hebeler asked if the last speaker would elaborate the difficulties in which the Irish profession would be put. The Association had as a Branch the South African Veterinary Association which was in quite a different national environment from what it was previously and he could not see any reason why the Irish Veterinary Association should be put in any more difficult position.

Mr. Campbell Hill replied that the difficulty was political and would be forced upon them by their Government. Mr. Hebeler had quoted South Africa and when their Prime Minister said so they would have to separate themselves from us. There was nothing to stop the Irish Government doing the same; it was a matter inherent in the right of States to shape their own courses and the determination of all bodies working in their countries.

Mr. Bywater said that they must look at things in their proper perspective. The Government of Ireland would not pass a law which would disturb the relationship with the Royal College of Veterinary Surgeons, otherwise their people presumably would not be able to practise in this country.

Mr. G. N. Gould (Southampton) said that all this had been said before, the only thing to do now was to make the decision.

Mr. Hugh Begg (Strathaven) did not think they should enter into political argument about this, they had no right to discuss politics at all. He did not think the Irish Government would do anything about it because of colonial appointments and openings through this country.

The President, in putting the resolution, said he thought it would be fair to let opposers speak.

The resolution was carried with two dissentients.

Honorary Membership

Conferment upon Dr. J. T. Edwards

Mr. A. J. Wright moved that Dr. J. T. Edwards be elected an Honorary Member of the Association. He said: Dr. Edwards has had a long and productive service with the N.V.M.A. He has had a lifetime with the Association and the *Record*, he was present in 1919 when the Association was first launched in its present form, in 1920 he became the Editor after John Malcolm and whilst at the Royal Veterinary College he brought out the weekly journal although it was printed in Birmingham. He left in 1921 for eight years' service in India, but he left the journal on a square footing, with an Editorial Committee, and the printing was transferred to London. He returned to this country in 1933, rejoined the Association and has served continuously except for his stay in Egypt. The later period of his connection with the *Record* was marked by the development of major historical studies and he is known as the historian of the profession.

Amongst his outstanding work was the Silver Jubilee Celebration article in 1935, and the R.C.V.S. Centenary Number in 1945 which, I understand, took two years to complete.

Apart from his journalistic and literary abilities Dr. Edwards has been renowned as a scientist; he was the recipient of the Weldon Dalrymple-Champneys Cup in 1940, he has been on the Council since 1941 and also for his scientific work he received the Central Society's Victory Medal in 1938. Therefore I am confident that, knowing the great work and the immense amount of time that Dr. Edwards has given to this Association and to the profession, he is a worthy recipient of the honour which I propose. (Applause.)

The President: I would like to second this proposal from the chair and to associate myself with all that the proposer has said.

The proposal was carried unanimously, with acclamation.

The President: Dr. Edwards, it is the unanimous wish of the members and it gives me great pleasure—in fact I am honoured—that I should be privileged to make this presentation. I can add little more to what has been said except that in my opinion this is an award well earned. I do most sincerely congratulate you. (Applause.)

Dr. Edwards went up to the platform to receive the Scroll of his Honorary Membership at the hands of the President.

Dr. J. T. Edwards (London): By conferring upon me this honour you have, as it were, entered me upon the Roll of Freedom of your City. It is as such that I receive it; knowing it to be the rarest honour at the present time within the gift of my brethren in the profession. The award, when the

news of it came to me, was wholly unexpected; I promptly expressed the depth and measure of my gratitude to you, Sir, for it.

But, as is the custom on the occasions when the freedom of a city is bestowed upon a recipient, something more than gratitude needs to be expressed: something in the nature of a message. And, with the world as it is to-day, that message must be one of hope; but hope tempered with certain qualifications.

It is true that for many years I have been invited to discharge certain tasks on behalf of my brethren in this profession for this Association. I have always looked upon it as my first duty to discharge those tasks. It has been my great delight when then I have found I have achieved them. For that work I have never asked or sought other reward than that which comes from that satisfaction.

This Roll, which I hold in my hand to-day, has the very great merit of not conflicting with the enjoyment of that inward satisfaction. It is nothing in the nature of a token conferring upon me more power, whether pecuniary or titular. For, to recall the famous words of the great historian, Lord Acton, "all power corrupts, and absolute power absolutely corrupts." This award will remain abiding testimony to me, on the contrary, not of any privilege you have given me to indulge in wielding more power over my fellow-man and so "commanding" his respect, but of the affection which from day to day I can, if I try, succeed in "winning" in his heart, and which has been already vouchsafed to have been won in the hearts of those who know me best. If, as I truly believe, that is the spirit in which you have made this award, then it is one, above all others I shall, with pride but in constant humility, prize most.

This year is a critical year in the history of the world and in the history of our profession.

It has been my privilege to be called upon to expound the work of the profession during the past century in commemorating the Festival of Britain. It became very evident from the researches into our history that this Association, during those anxious, tiring and momentous days (as only the few surviving who were then chief actors upon the scene know them to have been) between the years 1919 and 1922, came to birth just in time, and only just in time. So that, at this present year, 1951, the Association has reached that stage of maturity when it can look forward boldly to discharging duties on behalf of the profession which are those of a responsible free political society. Those duties could not have been discharged, in the drastically transformed circumstances of the present time, by any other constituted body or organisation. And those duties call for most urgent and competent discharge if the profession is to hold together and survive and fulfil its destined mission within the community.

For, in this year, the Council of the Royal College of Veterinary Surgeons has become armed by statute with certain powers which it never had before and which it must sacredly and vigilantly discharge; while, meanwhile, it has become hedged in too in its functions by that selfsame powerful statute, which is the Act of 1948. None the less, despite all prescriptions, I would wish to seize this occasion to utter solemn warning that it is the stern duty of all those who toil in the practice of this profession to acquit themselves creditably in preserving the heritage won for them by retaining a dominant voice within that Council through selecting and voting to it such only as have the full measure of their confidence. That confidence can only be reposed in those who are fitted to speak for them from knowing the life of the profession as it is lived from day to day and who most worthily earn their daily bread by it in the service of the community.

But, in the life of the profession, it is the "National," above all, which has become the free voice, the unfettered political soul, of the profession. One can well foresee that in the future, now that at this critical stage in our transformed story it has had ample time steadily to mature to wisdom in its counsels, it is destined year by year to acquire ever greater authority. But that will be on one condition only. That condition is: that it never lapses into complacency. As Lord Chesterfield wrote (in 1758) of the two statesmen whom by good fortune England found in "her hours of great peril" and who were the dominating figures in the Coalition Government which if it did not make the British Empire as we later came to know it, at least certainly saved it for us: "*The Duke of Newcastle and [the elder] Pitt jog along like man and wife, seldom agreeing, often quarrelling, but by a mutual interest upon the whole, not parting.*"

So it will always be with us, that we *shall* hold together, and achieve our goals, so long as we discern and keep steadfastly before our vision what is *our common interest*. Let us have our disagreements, our quarrels even: there is little harm in them. That is far better than, from lassitude, indifference, apathy, letting things drift into complacency and then lapse into deterioration, decay and dissolution, which tendency, as William Hunting and others have said in the past, has been the great curse of this profession.

That is so not only with this profession, but with all professions. It has been so, too, in the history of peoples and of Empires. Let us make recall: during and just after the Augustus period in the Roman Empire there was engendered in the well-ordered state a feeling of great security, followed then by a stage of complacency, leading to that decline and fall which culminated in the West in a millenium of darkness. A Spartan population had become replaced by one corrupted by the power of wealth and admixed with inferior races who lived by their wiles and wits rather than by honest toil. But while during the long centuries that had gone before Rome was struggling to her feet and raising her legionaries from the simple-minded, frugal-living folk of her countryside, among whom the skilled cattle husbandmen—the *good veterinarians*—the class from whom we derive our name, were held in high respect and esteem—then with never more than 100,000 of those legionaries she built an Empire vaster and greater than the world until then had ever seen.

Our own task as we can now perceive it to-day is, too, not only to keep in health, and heal the sick among, those animals which man has domesticated for his uses, beneficent as are those purposes in themselves in every way. Our task in the social economy is greater still. The good modern veterinarian practising in his countryside has a transcending function to perform in cohering a virile rural population and ensuring social stability among it, by promoting as a common interest that real affection for the cattle and other stock raised on its soil—in the way the Roman husbandman was long related to have for his older or working bullocks. For, as has been well said, where there are bred fine cattle, there too are bred fine men.

Armed therefore with this Roll of *your* City's Freedom, and heartened and inspired by reflecting on the story of what has conduced to the past greatness of peoples, I feel that henceforth in the large world outside I can, whenever challenged, stand, like the Roman of old, with head erect, and say: "I am a Roman Citizen: I am a citizen of no mean City." (Applause).

Proposal to Confer Honorary Membership on Mr. Steele-Bodger

Mr. G. N. Gould: As the Chairman of the Technical Development Committee it has been necessary for me to take a very close interest in the minutes of that particular committee and there was one item at our last meeting which was of particular significance relating to the booklet on

"Laboratory Aids to Diagnosis." The interest about this item is that this booklet marked the last of those envisaged by the old Survey Committee under the Chairmanship of Mr. Steele-Bodger. The other publications include the technical papers in connection with the Survey Scheme, the Farm Buildings Reports, the Sheep Report and the Pig Report, which were all very valuable contributions to the work of the profession. Harry Steele-Bodger was a man who with three others in 1939 initiated the Survey Scheme which, however we regard such schemes, can be said to have brought about the conception that the veterinary surgeon should be "the physician of the farm."

In my view and the view of many in this profession we owe a great debt of gratitude to Harry Steele-Bodger. (Hear, hear.) That being the case, I would like to propose that Harry Steele-Bodger have conferred upon him the Honorary Membership of this Association in view of the vast contribution he made to the affairs of the profession in a personal capacity and as a member of the Survey Committee over many years, but more particularly for his work since 1940. (Applause.)

Dr. W. R. WOOLDRIDGE (London): I am glad that Mr. Gould has raised this matter because although there are many people in the profession who have done yeoman service for us none can take pride of place to Harry Steele-Bodger and although it may be necessary for this to go through the normal routine I would like to be associated with the proposal and to second it.

The PRESIDENT: While appreciating and sympathising with the remarks which you have made, and I would like to be associated with them, I must rule this proposal out of order, but if you, Mr. Gould as proposer, and Dr. Wooldridge as seconder, would agree to put this forward as a proposition so that it goes on to the agenda of the Autumn Council meeting, I would be prepared to accept it.

Mr. GOULD: I am sorry that I was out of order; may I alter it to a recommendation from this annual meeting, that he be elected an Honorary Member of this Association at the next Council meeting.

Dr. WOOLDRIDGE accepted this alteration very appreciatively, and the proposition was carried unanimously as a recommendation to Council.

MEMBERSHIP OF COUNCIL OF PAST-PRESIDENTS

Dr. J. T. EDWARDS had given Notice of Motion to amend Article 65 (A) of the Articles of Association by deleting the words "Past-Presidents." This would have the effect of preventing the Past-Presidents from retaining the privilege of sitting *ex officio* on the Council, while not debarring them from it should it be the desire of any Branch or Division to re-elect them in the ordinary way, that is, like other members, to seats on the Council.

Captain J. R. BARKER (Hereford) asked the President if he would ask Dr. Edwards to withdraw the motion.

Dr. EDWARDS: Far from withdrawing the motion at this stage, I would insist that further reflection upon its merits since the time when I sought to have it placed upon the agenda of this meeting has merely served to strengthen the arguments for its retention and pressing forward with it.

There is, indeed, one aspect of the arguments which, Sir, has since occurred to me and which, when I put it before you, you will be inclined to look upon as suggesting a somewhat grim and gruesome prospect for you.

If you look at page 46 of the Congress *Handbook* you will find entered upon it the names of 122 Members of Council selected for seats on it by the Branches and Divisions.

For expeditious and urgent executive action that number is far too many. Shortly after the Cardiff Congress last year I submitted to you at your request a scheme of reorganisation according to which an Executive Committee, or Council, should be constituted comprised of not more than 25 members of the Association selected by the votes of the whole Association. These would retire, in suitable groups, of six each year, and be presided over by the President, also selected by election from the whole Association, his term of office being extended to cover not less than two years.

I do not wish to labour the argument in support of such a reorganisation at this moment: it is mentioned only as incidental. The proposed new Executive has nothing novel about it, for it is on the lines conceived for the management of most other national learned and other societies.

Many of the then senior members of the old Association had had, indeed, grave misgivings (I vividly recall) when the late Dr. Bradley pressed forward during the early years of his long presidency, that is, before 1919, his scheme of federation based upon the model of the British Medical Association. The model, as recent political events have proved, was not the best one, for that Association (the B.M.A.) has revealed weaknesses as a negotiating and bargaining instrument; whereas the immensely powerful Trades Union Congress has an Executive comprised of only 25 members, who hold their seats upon it by what seems to be a most rational system of election. At this present day, the former squeamish aversion against emulating trade union models has become, be it said, largely outmoded.

It might well be conceded that a large Council, such as is in being at the present moment, could well be retained as a consultative body, to which standing committees could report as heretofore. But in several emergencies that have occurred in recent years I think it will be conceded that a small elected Executive, on the lines suggested, would have found itself more powerfully armed with authority to act promptly and effectively.

At the top of the list of members, however, there are the names of the Past-Presidents, actually 15 in number, who retain the privilege of seats on the Council in virtue of having passed through the Presidential Chair, irrespective of whether or not in the succeeding years they have retained the confidence of any of the federated units of the Association.

I would suggest, Sir (added Dr. Edwards), that the actual number of Past-Presidents constitutes in itself a disclosure to you of your own expectation of life—15 years—after you have passed through the Presidential Chair [Dr. Edwards then introduced some levity into his speech in elaborating this prospect].

The reason which prompted me, however, to put forward this motion was an experience gained recently at the "Central," when acting perversely contrary to much-cherished life-long principles of boldly facilitating the progress of a younger generation through any barrier or obstacle placed in its way by an older generation, I allowed my own name to go forward as candidate for election to the Council of that Division.

The fate I suffered was a thoroughly just one: the full meeting of fellows unceremoniously voted me out of their Council. I had had my "day", and I ought to have known better. Never was more condign punishment meted out by an electorate. I was very sorry indeed, however, to find that the meeting, in its wisdom, decided to deal out a similar fate to Past-Presidents, like Dr. T. Hare and Dr. W. R. Wooldridge, whose terms of office in the chair of the "Central" I recalled with a feeling of deep nostalgia and who had rendered during a critical period highly distinguished services to the Division. At first sight, it would seem that the "experience" of such men would be proof against any other considerations.

The circumstances, to comprehend them, need some careful elaboration. Otherwise, the soundness of the arguments for pressing forward with the present motion, quite understandably, do not become immediately evident.

Indeed, at my present age, in self-interest, it might well seem odd that I do not advocate the prior claim of long and mature experience over the natural *élan*, and concurrent impetuosity, of youth.

Those circumstances are intertwined with the history of the Societies, or local Associations, and of the "Central" in particular, because its history is a peculiar one. It has no connection whatever with any previously founded London society, and there were several flourishing provincial societies (to be exact, 14) when Fleming contrived at last to found a durable metropolitan society, laying down a scheme for the conduct of meetings so as to exclude highly controversial ethical topics likely to lead to acrimonious discussion and dissension, and restricting proceedings to pathological, clinical, and strictly topical vocational problems.

In the event, the plan succeeded, for several years, beyond even the most sanguine anticipations of the founders. Elsewhere, I have discussed the subject fully in its various bearings, in particular in so far as London, or metropolitan, conditions differ widely from those in the provinces (see, for example, *Brit. Vet. J.*, 1951, September, Vol. 107, No. 9, pp. 349–361). Hence much that is germane to the argument in support of the motion is not being said here again, so as not to weary the meeting.

Recently, however, some who were genuinely concerned with prospects and were serving on the Council of the "Central" became much perturbed with the prevalence of murmurs, which, though not loud, were ominously deep, and portended danger ahead—perhaps the founding even of a rival metropolitan society. From a younger generation of fellows there surged the usual murmuring that the Division was being dominated by an "old gang," the existing members of the Council nominating themselves, almost in perpetuity, to seats on the Council even well after they had achieved the summit of their ambitions by ascent to the Presidential Chair. There were murmurings, too, on the one hand, that discussions at meetings were dominated by the nostalgic reminiscences of older fellows who were out of touch educationally with modern developments in veterinary medicine; and, on the other hand, that the subjects chosen for discussion at meetings were set down by Presidents who, from their mode of specialised employment, were out of touch with the problems of current veterinary practice.

Most wisely, therefore (and special tribute must here be paid to the insight of the present Secretary, Dr. F. R. Bell), it was decided that the nomination and election of members to Council should be thrown open to the free choice and vote of the annual meeting of fellows.

The result was as I have already told it to this meeting.

There was, as I have said, no excuse whatever for my allowing myself to act by accepting nomination in conflict with my instinct and settled principles; the electorate of the Division is to be congratulated on the steps it took, regardless of any misplaced sentimentality towards the feelings of older fellows, to rejuvenate the Division and ensure vigorous survival. I am happy to say that the beneficent results of that action became immediately evident.

Without consulting anyone therefore and guided entirely by my own judgment, and, moreover, anticipating that the good sense of the rejuvenating elements of the "Central" would communicate itself outside so as to be found of universal applicability throughout the "National," I sought, in the regular manner, that the present motion, which stands under my name, be placed on the agenda of this annual general meeting of the N.V.M.A.

The great Duke of Wellington was once asked what he thought were the outstanding qualities of a good general. Surprisingly, his prompt reply was: "They are two; first, to know *when* to retreat; to *decide* then on retreat." I had known when to retreat; but through curiosity or frailty, or both, at the psychological moment, failed to make the decision which, at any rate, would have saved my self-esteem.

Again (perhaps the personal anecdote will be excused), I recall when on a visit to Germany in 1926, my host invited specially as guest to meet me a distinguished German military staff officer who had served, it turned out, in France during the early phases of the 1914–18 war opposite the formations to which I was posted in the British Army. To my surprise, he was himself responsible for several of the incidents which a resourceful enemy then staged, whether to effect breaks through from his side of the line, which were then, most narrowly, held up on our side; or frustrate, later, costly attempts from our side to break through the German lines. Coming eventually to the causes of the ultimate German defeat, he confessed: "The truth is that we on our side had far too many old cavalry generals and the like who had to be given command of corps and army groups; whereas you, on your side, had to create, from raw youth, an entirely new army. And, in war, as in life, conditions change so rapidly that it is not so much 'experience' that counts as a capacity for readjustment to solve fresh emergencies as they arise from day to day. And that is a perquisite of youth."

"Too many 'Past-Presidents'," concluded Dr. Edwards, amid laughter, "had caused the defeat of a powerful army and the downfall of a great nation. I am sure I need not dilate further upon the appositeness of that anecdote to the present situation in the 'National'; in time, it will become, I feel certain, self-evident to all."

I move: "That Article 65 (A) of the Articles of Association of the N.V.M.A. be amended thus: delete 'Past-Presidents'."

Mr. L. Guy Anderson (Aylesbury): I am very happy to second this resolution. According to his (Dr. Edwards') arithmetic, once we have been through the chair we have 15 years to live and it would appear, therefore, that we have four or five corpses already as members of Council!! One cannot possibly support that, so I will support Dr. Edwards.

Mr. E. B. D. Hall (Wiveliscombe): I want to speak against the proposition and to move an amendment that we do not make any distinction between these gentlemen.

Mr. Hignett seconded.

Mr. Begg: I think there is a feeling that this should be taken out of the light vein into which Dr. Edwards has put it. Some people have strong views on this. This is the only institution I know where Past-Presidents carry on to this extent. I feel that there is something in it. The Council is completely overloaded; in a profession of 4,000 there should not be over 100 members on the Council with expenses being paid in some degree. I think it is time something was cut down. On the other hand, the members of Council are good friends of mine and I do not want to make it a personal issue at all. It has been said up and down the country that this should be stopped. People have the privilege of being elected President and I think one year following the Presidency is an adequate time to serve as these Past-Presidents have the same facilities for getting on the Council as ordinary members of the profession, through the Divisions. You must think about these things. There is a tendency for Past-Presidents who have a more intimate knowledge of the running of affairs, and probably doing it very well, to take more share of the business than members from outside and I do not think that is healthy for the profession or for the Council. I strongly support the motion which was made in a jocular way; I do think there is something in it which should be considered.

Mr. Bywater: I should like to make a further amendment that this should be referred to the General Purposes and

Finance Committee for consideration. In my opinion the Council is overloaded. We have admitted two further Divisions to-day which will mean additional members of Council; there are so many Divisions nowadays that if this increase continues we may soon have every other member of the profession turning up as member of Council. In my opinion the present ratio of one for every 35 members is too high and I think that the Council should be reduced. I am not at all sure, however, that we should benefit by cutting out the Past-Presidents. They have a wealth of experience which they bring to bear on the business of the Association. It might be desirable to limit the number of years for which they could serve unless they were re-elected, but I really think that to cut them out at one fell stroke would harm the Association. Young people are very valuable to stimulate the older people, but it is not a bad idea to put the old heads alongside the young ones.

Mr. A. J. WRIGHT: Whilst Dr. Edwards did start off in a light vein, I think I understand what is at the back of his mind and I speak quite seriously. I think that what is at the back of his mind and that of many others is that we want to encourage young members in the Association to hold office and take responsibility. I am all for it, but let us examine the question in its true perspective. Dr. Edwards made play about the large list of Past-Presidents, but I think it is correct to say that as long as I have been associated with the "National" the greatest number of Past-Presidents who have been active in Council is 8 to 10. Whilst not wanting to enter into the argument put forward by our Treasurer, the question of the total number of Council is being seriously considered by the appropriate committee, and I would put forward this point of view to Dr. Edwards.

You are trying to make more room for younger men in the Association, but I have a strong feeling that the method you are suggesting will have the reverse effect. Mr. Begg suggested that Past-Presidents might come back through election by their Divisions and it is safe to say that they would be put forward by their Divisions and they would be taking the place of young men who could come from the Divisions. I wish also to make the personal point which I know applies to many Past-Presidents. When I accepted my nomination to become an officer of this Association I did so only in the full knowledge that I had behind me and at my elbow such men as the Past-Presidents to help and guide the officers in the Association's work. Owing to the constitution of the Association and the lack of continuity with changing officers, it is essential that we have some men with the experience of Past-Presidents to guide and help us in negotiations, particularly with outside bodies.

I strongly oppose this motion on those two grounds; firstly, that it will defeat its aim of getting younger men and secondly, you will take men away from the Council whose experience and guidance in the work of the Association would be lost, and many incoming officers would be placed in an awkward and unenviable position.

Mr. NEIL MATHIESON (London): There are two reasons why Past-Presidents should continue to serve the Association as members of Council. The first is that they have a wealth of experience in the ways of the Association, and the second is that this continued membership of Council shows, in however small a way, the appreciation of the members of the Association for the very arduous work and the great amount of self-sacrifice that each Past-President has given in the interests of tehprofession.

But, I am bound to support Dr. Edwards' motion on a question of principle. We have been told that the Council is too large. That is true, but that is not the reason why I am supporting this motion. To me it seems fundamentally wrong that we should have on Council a large and powerful body of men owing no responsibility to the electorate. In the next two or three weeks we are going to hear a lot of malarky about democracy, a word which has, by constant misuse, lost all semblance of its original meaning, but I am using it here in its strict sense—it is not democratic to have non-elected members of Council.

No doubt the various Divisions would be pleased and honoured to send Past-Presidents to Council to represent them, but it is wholly reprehensible that this body of men should remain permanently in office without having to submit themselves to the vote.

Dr. A. W. STABLEFORTH (Weybridge): Two points have been brought up which seem to me to be red herrings, the first that it is a privilege to be the President. Of course it is; but we should remember that beyond the privilege it is a great duty, a great responsibility and something which teaches a man a great deal about the affairs of this Association. Secondly, Mr. Mathieson said that it was not democratic to have men who are not elected. That, however, is something which we should value very much, that we have men on the Council as elder statesmen. It has been found good policy in Governments to have a body of elder statesmen whose qualities are valued. These are the two main points on which I would strongly oppose any suggestion that we should not have Past-Presidents on our Council. We have been told that there are 15. Due to age some cannot attend, only 8 to 10 are active, less than 10 per cent. of the Council, which is a very small number but a number which is invaluable to any man going through the Presidential Chair.

Mr. T. HUGHES ELLIS (Chwilog): I would like to make a proposition as a compromise, that is, "That the number of Past-Presidents on the Council be limited to the last four," the Senior Past-President dropping out each year.

Mr. A. D. MCEWEN (Moredun) seconded. He said this would give an adequate number with past experience.

Mr. A. J. BEESON (Maidstone) pointed out that there were already two amendments.

Dr. EDWARDS said he would accept this amendment with the consent of his seconder.

Mr. A. M. GRAHAM: I would second the proposal made by Mr. Bywater, that this matter be referred to the General Purposes and Finance Committee, because that Committee is already considering the number of members of the Council.

Mr. A. J. BEESON: I would oppose that. I do not think the number of Past-Presidents on the Council should be limited. I think you would be well advised to get the opinion of the Association as a whole on this matter.

The PRESIDENT: The effect of the first amendment is that no action be taken, which is a direct negative.

The GENERAL SECRETARY: The next one is that the matter be referred to the General Purposes and Finance Committee for consideration and report.

Mrs. KELLY (Liverpool): How many Past-Presidents are serving on that Committee?

The PRESIDENT: Three as Past-Presidents.

The GENERAL SECRETARY: There are other members on the General Purposes and Finance Committee by virtue of the fact that they are Chairmen of other committees.

Mr. BYWATER: We cannot really answer it because the General Purposes and Finance Committee has not been fixed yet.

Mr. BEGG asked if the proposers and seconders of amendments would withdraw them so that there could be a straight vote on the issue.

A MEMBER: Not all of us are as familiar as Dr. Edwards with the Articles of Association; not all of us knew what was intended, so that if a direct vote is taken on this issue it will be in the nature of a snap vote and I think it would be better to have it referred to some other body.

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ALAN J. WRIGHT, M.R.C.V.S.,

President of the National Veterinary Medical Association of Great Britain and Ireland, 1951-52

Dr. Edwards seconded the proposition that there should be a straight vote.

Dr. McEwen: That is not in order, if you have amendments they must be considered.

The President: I will put this amendment to the vote that the matter be referred to the General Purposes and Finance Committee for consideration and report.

The amendment was lost.

The President then wished to put the next amendment, that the number of Past-Presidents be limited to four.

Mr. Campbell Hill asked which Past-Presidents attended.

Mr. Hebeler: It appears to me that in proposing this motion Dr. Edwards is visiting the sins of the fathers upon the children and that Mr. Anderson seconded it in the process of auto-intoxication. As one who is conscious of the fact that he is a young member of the Association and also an officer I would speak very strongly against any resolution of this sort. I have been your Honorary Secretary for one year and the help which I have had from Past-Presidents . . .

Mr. Begg: On a point of order, we are voting on amendments at the present time and I do not think anything can interfere with that.

Mr. Hebeler: I am speaking on the amendment. The help I have had from Past-Presidents has been considerable. I understand the amendment goes back to the last four Past-Presidents and the senior drops out. For three or four years they are so exhausted after going through the chair that they do not become active for four years! ("Oh.")

The General Secretary: Six of them seldom attend meetings of the Council.

Mr. Beeson: I think it would be very ill-advised to go by any strict arithmetical or chronological order. To restrict it to the last four might cut out some very valuable men.

Mr. Campbell Hill: We have heard from the General Secretary that there are six Past-Presidents who seldom attend and that should be a guide to enable us to say that they have ceased to take any very great or lively interest. Those who wish to retire should be able to do so and the Past-Presidents' membership could at least be reduced to those who desire to attend. We do want live members on the Council and we want the Council reduced.

Mr. Ingram: I support the view expressed by Mr. Beeson. These men came in on their merits and if we are going to be democratic, let us be democratic, and if they are going out let them go on order of merit.

A Member: Who is going to decide the order of merit? I think this is a question of democracy, when a man has been President and has retired he has completed his job.

Dr. Stableforth: If they are elected by their Divisions, they take the place of a younger man; to have the last four would, I submit, be quite wrong.

Dr. Edwards: The Past-Presidents should not hold on and on; the Secretary should not refer to them rather than to the reigning President. We want new energy, new power, new zeal.

Mr. Begg asked if Mr. Hughes Ellis would drop his amendment so that a straight vote could be taken.

Mr. Hughes Ellis said that there should be a compromise, the experience was wanted.

The amendment was then put to the meeting and lost.

The motion as originally moved was then moved and there voted: For 27, Against 31.

All Past-Presidents present refrained from voting.

The proposition was therefore lost.

There was no other business to be put before the meeting and it was adjourned until Saturday, September 29th, at 10 a.m.

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ALAN J. WRIGHT, M.R.C.V.S.

President of the National Veterinary Medical Association, 1951-52

Mr. Alan J. Wright, whose election to the Presidency of the Association was so cordially acclaimed at Eastbourne, qualified in 1928 at the Royal Veterinary College. He proceeded to the Dick College to take the D.V.S.M. course, but was unable to sit the examination owing to his having to take over, at short notice as principal, his present practice in Macclesfield. He is a most successful practitioner and by hard work has built up one of the largest mixed practices in Cheshire.

At the Royal Veterinary College he achieved Honours in three of his four professional examinations and won the Gold Medal for highest marks in three of them. The Walley Memorial Prize was awarded to him; also the Gold Medal for ageing of animals and the College Clinical Medal.

Soon after going to Macclesfield he did what every member of the profession should do, joined his local Division of the N.V.M.A., namely, the Lancashire Veterinary Association. By his wide experience in general practice and his ready grasp of points at issue, he has been enabled to contribute most effectively to discussions in its meetings and council. It was inevitable that a man of his abilities with such a breadth of outlook should soon be elected President of the Division and be nominated as a Lancashire representative on the Council of the N.V.M.A. As things have turned out, the Lancashire can be congratulated on fostering Alan Wright.

Since his membership of Council, N.V.M.A. commenced he has taken an active part in the affairs of the Association. He is a member of the General Purposes and Finance Committee, of the Technical Developments Committee and for quite a number of years, until elected as Junior Vice-President, was Chairman of the Appointments Committee. Our new President is also a valued member of the Council of the National Veterinary Benevolent and Mutual Defence Society. The advice he gives and the judgment he displays on cases before the Council are always sound and appreciated.

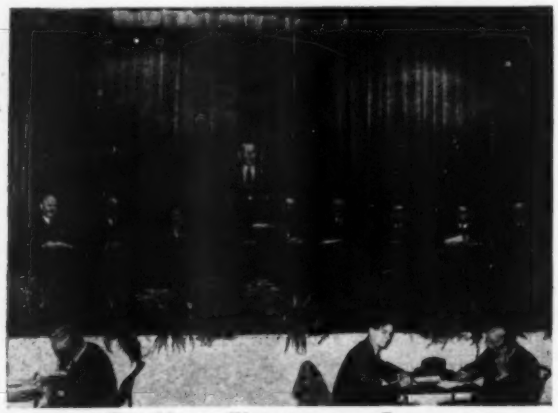
Being still on the right side of 50, Alan Wright enters his Presidential year of office full of vigour and enthusiasm, yet possessing mature experience of the many duties he will be called upon to undertake. The decision of the Association to elect him as President is a source of great satisfaction to all his colleagues, and especially to those in the north, and one is confident that time will prove it to have been in the best interests of the Association.

One may interpolate here reference to his achievements in the field of sport as further evidence that from his youth Alan has made a success of everything he has undertaken. At Harwich County High School he was captain of the hockey, football and cricket teams, continuing on his successful way when he went to the Royal Veterinary College in 1924. There he was soon elected captain of the hockey team and gained hockey colours for the University of London. Since residing in Macclesfield he has played hockey for the town and for Cheshire County, while he also has won many trophies for tennis and snooker. At present, in what little time he can spare, his hobbies are fishing and shooting.

This appreciation of Alan Wright cannot end without reference to his wife and family, who will have to make many sacrifices during his year of office. Mrs. Wright, whom he married in 1930, is a lady of consequence and influence in local affairs. She is a prominent member of

the Macclesfield Town Council, taking an active interest in its Committee work and a leading part in the care and welfare of the old people of the town. It is almost superfluous to add that Mrs. Wright is an ardent supporter of the Ladies' Guild of the Victoria Veterinary Benevolent Fund; indeed she is this year's President. They have two children, both sons, the elder having just passed the first professional examination at the Royal Veterinary College, London: it is the wish of all that he should achieve the same success in his profession as his father has done.

The writer of this brief biography would venture, on behalf of all his colleagues in the Association, to wish our new President a completely successful year of office, fortified by the knowledge that he enjoys the full confidence of his fellow members. J. H.



THE MAYOR WELCOMES THE CONGRESS

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and the new President acclaimed. The appointment of his successor has historic significance envisaging as it does the first incumbency of the post of President by a member of the Ministry's Staff. A pleasing feature was the presence of representatives of various student organisations.

All these events and many more are, or will be, recorded in these columns but no words can convey the sense of invigoration imparted to the Association by this refreshing town and by the stimulating programme of events.

We look forward to next year's Congress at Harrogate and in the interim period can rely with confidence on the able leadership of our new President.

THE VETERINARY RECORD
DECEMBER 1, 1951

THE N.V.M.A. AT EASTBOURNE

THE 69th Annual General Meeting and the 1951 Congress of the National Veterinary Medical Association opened under the shadow of anxiety concerning the King's health, and on the first day a message was sent to the Palace by the President on behalf of the N.V.M.A. expressing the Association's sympathy with the Queen and the Royal Family, and its loyal hopes for His Majesty's speedy recovery. The same day a reply was received thanking the Association and expressing Her Majesty's appreciation of the message; this reply was read to the Members at the Civic Reception that evening.

Great credit is due to the Chairman and members of the Provisional Committee and to the members of the Sussex and South Eastern Counties Divisions; the work of the Local Honorary Secretaries should be specially mentioned. Our ambitious hosts had set themselves the task of making this Congress "the best ever," and few attending members will deny their success. Their able organisation was the basis for the smooth running of a finely balanced programme which opened with a successful innovation in the form of a Cocktail Party given by the welcoming Divisions.

The Congress programme was helped by the very sensible decisions not to risk spoiling the discussions on important papers by attempting to squeeze two discussions into one morning, and to have only one opener for each.

It would be invidious to select any of the discussions for special mention, but it can confidently be expected that valuable new light will have been thrown on the subjects dealt with. A notable departure from procedure was made on the opening day when, in place of the usual set paper, a series of important addresses was given on "Control of Diseases of Livestock; a comparison of methods in different countries and their significance," contributions being made by the Chief Veterinary Officer and by delegates from the U.S.A. and the Netherlands.

The following day we heard of the effects, immediate and delayed, of atomic weapons upon domestic animals. The potentially perilous times in which we live gave significance and importance to this masterly yet horrifying address.

The impressive demonstrations of Veterinary Surgery were, for many, an outstanding feature of the Congress. The first of these was a series of colour films showing various surgical operations in small animals and we are indebted to the Principal of the Royal Veterinary College for facilitating the showing of these films; they confirm what we already know of the value of such records for educational purposes. The series of demonstrations and films at the Frant Veterinary Research Station enhanced the interest and delight of the visit to this beautifully situated centre.

The social side of Congress, so important in preserving the spirit of the Association, was an outstanding success, and this owed much to the welcoming atmosphere of the Borough which had taken its cue from its Chief Citizens, the Mayor and Mayoress. Their presence at most of our functions, which included of course the splendid Civic Reception and Dance, was most welcome. The President's Reception and the Guild Dance were very well attended and were notable for their informal and friendly atmosphere.

A spirit of marked cordiality distinguished the entire Congress; the business of the Association was harmonious

(Concluded at foot of previous column)

ADDRESSES AND PAPERS PRESENTED TO CONGRESS

The uniformly high level of attendance at the addresses given on the Monday afternoon and at noon on the following day, also at the discussions on the scientific papers, all of which took place in the Floral Hall at the Winter Garden, bore witness to the excellence of the selection of subjects made by the Provisional Committee. Their wisdom was evidenced further by the provision of ample time for discussion, which was ensured by the allocation of an entire morning for that purpose in the case of each paper presented and the appointment of but one opener of the discussion: this arrangement was appreciated greatly and resulted in the expression of representative opinion from the body of the meeting.

The scientific programme was rendered the more noteworthy from the outset by the introduction of a new feature —the delivery of a series of undiscussed addresses on a theme of great topical importance. Reproduced below, to introduce this section, these were: " Control of Diseases of Livestock: a Comparison of Methods in Different Countries and their Significance," by Sir Thomas Dalling, Chief Veterinary Officer, Ministry of Agriculture, and succeeding contributions on animal disease control in their respective countries by Dr. L. P. de Vries, Secretary of the Animal Health Service, The Hague, Holland, and Lieut.-Colonel Rolland O. Scott, Senior Veterinary Officer attached to the U.S.A. Air Force in the United Kingdom. We also publish in this issue the address given by Mr. J. F. Loutit, D.M., M.R.C.P., M.R.C.S., of the Atomic Energy Research Station at Harwell, on " The Effect of Atomic Weapons on Domestic Animals," together with the first paper to be discussed, that by Dr. A. W. Taylor, M.R.C.V.S., of Compton, on " Johne's Disease—its Diagnosis and Control," discussion on which was opened by Mr. H. T. Matthews, B.V.Sc., F.R.C.V.S., D.V.H., Superintending Veterinary Officer of the Ministry of Agriculture. Next week's issue will contain the succeeding paper on " Genetics and Animal Breeding," by Professor M. M. Cooper, B.AGRIC.SC., B.LITT., DIP.RUR.ECON., of Wye, Kent, together with a report of the discussion, opened by Professor Wm. C. Miller, M.R.C.V.S., F.R.S.E., of the Animal Health Trust's Equine Research Station. The following papers and discussions will appear in successive numbers: " The Natural History of Virus Hepatitis of Dogs (Rubarth's Disease)," by H. B. Parry, M.A. (CANTAB.) M.R.C.V.S., and N. M. Larin, D.Sc., of the Canine Research Station of the Animal Health Trust (opener of discussion, Professor L. P. Pugh, B.Sc., F.R.C.V.S., of Cambridge), and " Parasitic Bronchitis in Cattle," by E. L. Taylor, D.V.Sc. (LIV.), M.R.C.V.S., D.V.H., of Weybridge (opener of discussion, Mr. J. W. Bruford, M.R.C.V.S., of Sevenoaks).

CONTROL OF DISEASES OF LIVESTOCK: A COMPARISON OF METHODS IN DIFFERENT COUNTRIES AND THEIR SIGNIFICANCE

BY

Sir THOMAS DALLING,
CHIEF VETERINARY OFFICER, MINISTRY OF AGRICULTURE

There was a crowded attendance at the Floral Hall in the Winter Garden on Monday afternoon, September 24th, when, as intimated above, the series of addresses on animal disease control was opened by Sir Thomas Dalling, with the President, Mr. S. F. J. Hodgman, in the chair.

The PRESIDENT: Sir Thomas Dalling does not need any introduction from me. I think we are extremely lucky in having him with us to-day on one of his infrequent visits to Britain—(laughter)—and I am sure we are going to be interested in what he has to say. I would also like to introduce the two other speakers, Dr. de Vries from Holland, who is in control of services similar to the Veterinary Investigation Service in this country; it is not, however, a State service, it is provided by the farming community. Next we have Lieut.-Colonel Rolland O. Scott, U.S.A., head of the Veterinary Services of the U.S. Forces in this country; they are on the increase and deal mainly with matters of food inspection and food conservation. I will ask Sir Thomas to speak to you.

Sir THOMAS DALLING, M.A., D.Sc., F.R.C.V.S., F.R.S.E., Chief Veterinary Officer, Ministry of Agriculture: Before I begin this talk I will hand in a letter of greeting which I received from the President of the Canadian Veterinary Medical Association, the meeting of which I was privileged to attend a few days ago in the West of Canada. You entrusted me with a letter of greeting to be delivered to that Association, I duly did so, and your greetings were received with large acclamation. The President of the Canadian Veterinary Medical Association is a member of our Royal College. Although he is a Canadian graduate he also graduated at the Royal (Dick) Veterinary College, Edinburgh, and became a member of the Royal College; incidentally he is a very old friend of mine.

When your Programmes Committee invited me to give an address at this Congress they very kindly allowed me to choose the subject on which I would speak. I am grateful to them for this freedom. The title of this address was chosen because I felt it might be possible to show some of the results of the methods of control of diseases of livestock at present in operation, to make some comparison with what is happening in other countries and to give some personal views on future developments. It was also with the hope that some of the address would interest some of the members present, that this subject was selected. Our colleagues from Holland and the United States of America will, I hope, deal with the methods practised in their respective countries and any other aspects of the subject which they consider of importance.

Livestock forms a valuable part of agriculture in many countries, including our own, and it has gradually become obvious to me that at least some of the limitations to the economic development of agriculture throughout the world revolve around the health of the animals concerned. It is true that attention has been given to the study of highly infectious, rapidly spreading diseases and methods for their control have been evolved and are being practised in many

countries with considerable success: other causes of ill-health, however, less spectacular from the " killing " point of view, have but recently been considered worthy of investigation on the scale they merit, with the result that methods and measures for their control are only now being brought into operation or are in the process of being elaborated. It is natural, of course, that the highly infectious type of disease, the plagues and epizootics, should have received attention, almost to the exclusion of other diseases, especially when the economic loss from their presence in different parts of the world is considered: nevertheless, we have, I think, sufficient evidence, though it may be inaccurate, to show that diseases, infectious and non-infectious, are sources of heavy economic losses, especially in countries in which intensive livestock production is being pursued. At this point I would make an appeal for the collection of statistical information in all countries on the incidence of the different diseases. Requests are constantly being received for information on the incidence of diseases and the best we can say is that they are prevalent or otherwise: it is definitely embarrassing to have to report that we have no accurate information. I suspect that a similar state exists in other countries: it is significant that in the United States of America the position is realised and an attempt is now being made to obtain more accurate facts. The attempts made so far in this country are but a beginning and, in my view, have to be revised so that specially appointed personnel are used.

The important epizootics, prevalent in different parts of the world, are happily either entirely absent from this country or appear only at intervals, when, generally speaking, they are quickly controlled and eliminated. The Diseases of Animals Acts and Orders cover 13 diseases so far as notification is required: and largely due to the application of the conditions in the Acts and Orders, six of these diseases have been eradicated from this country. These are sheep-pox (1850), cattle plague or rinderpest (1877), pleuro-pneumonia (1898), epizootic lymphangitis (1906), rabies (1922) and glanders (1928). There still remain foot-and-mouth disease, swine fever, sheep scab, anthrax, parasitic mange in horses, asses and mules, certain forms of tuberculosis and fowl pest, which includes fowl plague and Newcastle disease. Even some of these latter diseases are practically non-existent or are well on the way to being eradicated: sheep scab and parasitic mange come into this category.

We owe our somewhat enviable position in this country mainly to the application of legislative measures which prevent the introduction of livestock from many countries and the action taken the moment the presence of the disease is suspected. Except from countries in which such diseases do not exist or from which it is possible to import animals under strictly laid-down conditions, their import is prohibited and it is only when exceptional circumstances arise and elaborate quarantine and biological and other tests give negative results that import of animals is permitted.

Unfortunately, because of our food requirements from abroad it is necessary to receive animal meat from countries in which certain diseases appear to be endemic: the inevitable result is that, periodically or sometimes frequently, outbreaks of disease, carried by the imported meat, occur. Foot-and-mouth disease and swine fever fall into this category. It is no exaggeration to claim that were it possible to dispense with the importation of meat, chilled, frozen or " cured," we would remain freer from these diseases. Experiences have shown that much the heaviest incidence of these diseases is associated with imports. Foot-and-mouth disease, though a serious menace to the livestock industry, generally speaking, can be classed as a " nuisance " disease, demanding careful organisation for dealing with outbreaks: it is remarkable, however, how, following the confirmation of an outbreak, the measures are put in action smoothly and how, as a rule, little or no spread of the disease takes place. The early reporting of suspicious cases by the farming community is the key to the situation. Swine fever, however, is not so easily dealt with. The difference between foot-and-mouth disease and swine fever concerns diagnostic procedure: whereas in the former, suspicious symptoms are usually reported as soon as they are observed, in swine fever time often elapses before any intimation of the probable presence of the disease is received and movement of infected animals has spread the infection.

Anthrax, although appearing important to an individual farmer, is, again, not to be regarded as a serious disease in this country. The disease can also be included in the list of " imported " diseases, not directly by infected animals or their carcases, but by skins, hides, bones, etc., of infected animals and feeding-stuffs with which such infected articles come into contact during transit. Anthrax is being well controlled by the reporting of deaths of animals which have died suddenly, by early diagnosis and by satisfactory disposal of infected carcases.

Fowl pest (Newcastle disease), unfortunately, made its appearance again in this country in 1947, after years of freedom: its eradication is proving difficult. There is no doubt of its being an " imported " disease. Whether at this late stage we can still eradicate the infection from the country, or whether it has to be admitted as an endemic disease is a matter which only time will resolve.

The object in this country is to eradicate, not control, the epizootic diseases and our success in this objective has centred around the " stamping out " policy which embraces slaughter of infected and contact animals, satisfactory disposal of carcases and the restriction of movement of livestock in a given area for a given time. On the whole, this method has proved satisfactory and there is no reason to assume that it will be abandoned unless circumstances arise which necessitate an alteration in policy. A similar type of policy is in force in some other countries: in many parts of the world, however, it is impossible to adopt such measures. It may be that the incidence of a disease is so high that a " stamping-out " policy would seriously deplete the stock, the disease in question already existing in an enzootic form: or that the chances of the re-introduction of the infection are so great that protective measures, *e.g.*, quarantine, etc., are ineffective. Whatever be the reason, it has been found necessary to adopt an immunisation policy, alone or together with a modified slaughter policy, as the most effective method of control. There is no doubt that the introduction of vaccine against foot-and-mouth disease and rinderpest has been followed by results in individual countries which have fully justified its use. Improved vaccines are being prepared for use against both these diseases and the results fully justify the schemes in which they are being used. Vaccination as a policy must always be attended with some risk. The object of vaccination is to ensure that a satisfactory immunity against the specific infection is laid down in an animal, so that, when exposed to infection, the animal will resist the infection and the clinical disease will not develop. With satisfactory vaccines available and their proper use there is no doubt

in any of our minds that a disease can be well controlled in a country. There is ample evidence from many parts of the world that rinderpest, for example, is being well controlled from the clinical aspect by the use of efficient vaccines. Results in some European countries and from Mexico indicate clearly that foot-and-mouth disease can be kept at a low incidence by the adoption of adequate vaccination procedure. We, in this country, strongly oppose vaccination as a policy for foot-and-mouth disease control, largely because our object is eradication and not control. There are many objections to vaccination in this country, not the least of which is that we can never be satisfied that a vaccinated animal may not be a carrier of infection. Carriers of infection matter but little in a country in which a disease is endemic and in which vaccination is the control policy; in a country in which only occasional outbreaks occur and which are introduced, a vaccination policy cannot operate. The risk of breakdowns in vaccinated animals, the multiplicity of strains of virus and the necessity for widespread and repeated application of vaccine, all detract from the value of vaccination in a country in which freedom from the infection is all important. We do agree with vaccination as a means of control of foot-and-mouth disease in many countries but we could not subscribe to such a policy in this country.

Fowl pest is now widespread throughout the world: few countries have escaped the infection, be it in the virulent or the subacute form. We have attempted to deal with the disease in this country on lines somewhat similar to those practised for foot-and-mouth disease: and there is little doubt that success would have been attained had it been possible to prevent a constant import of the infection. Infected domestic birds or their carcases are the only agents of any great importance in the spread, direct or indirect, of fowl pest. Wild birds, sea birds and other agents, acting as actual or mechanical carriers, although of some small significance, do not play a conspicuous part in the transmission of the disease, A difficulty in eradicating fowl pest is the diagnosis of the infection. Histories of outbreaks, clinical symptoms and the haemagglutination-inhibition (H.I.) test are all important in arriving at a diagnosis once a suspected outbreak is under investigation. Unfortunately, there is now evidence that apparently healthy fowls may be infected and may transmit the virus: the result is that the transmitters are not suspected and thus infections can become widespread from them. It may be, therefore, that in some countries the disease exists as an enzootic, in a subacute form with little chance of possible ultimate eradication. Vaccination as a control policy is the only method that can be practised in such countries.

Vaccination against a disease means the recognition of the disease as enzootic in a country: its practice is to be recommended and encouraged in such countries for the suppression of the clinical disease and for the internal economy of the country. Vaccination must be condemned as a policy in countries in which a disease is not enzootic and in which an eradication policy is adopted. Total eradication and vaccination cannot be considered as a short-term policy: it may be that vaccination, together with measures for the prevention of the introduction of new infections, will eventually result in eliminating a disease entirely from a country and that ultimately vaccination may be discontinued. Placed as we are in this island country we have good opportunities of preventing the importation of disease and of eradicating "foreign" diseases, should they be introduced, without resorting to vaccination. Our livestock export trade depends very largely on our freedom from major epizootics and it is therefore essential that our policy of eradication continues.

While we are in the happy position of freedom from major epizootics, we have still other diseases in this country which can be classified as enzootics. They are not notifiable and until recently no methods for extensive control had been visualised. Attempts by individual farmers, sometimes supported officially, have resulted in the elimination of a disease from groups of animals: veterinary surgeons in practice have played a considerable part in such work. The time has arrived when close consideration must be given to mass treatment with a view to an ultimate freeing of the country from such infections. A few examples will illustrate the point. Bovine tuberculosis has been present in this country for many years and is responsible for considerable economic loss. It is doubtful if some of the measures practised, even officially, for the detection of the excretors of active tubercle bacilli are effective in reducing the incidence of the disease throughout the country. It has been shown that the only sure and practical method is the detection of animals sensitised by bovine tubercle bacilli by the use of the tuberculin test and their removal from contact with healthy animals. The attested herd scheme proved its value to an extent that we are now busily engaged in clearing areas of tuberculous cattle with the object of eradicating the disease finally from the cattle population of this country. The example shown by this country and by the United States of America is influencing other countries to adopt similar measures. In some countries much stress is laid on the examination of sputum, milk and other excretions. Doubtless the finding of positive samples and the destruction of the infected animals is valuable: nevertheless it is significant that there is a gradual swing over to eradication following diagnosis by the tuberculin test.

In brucellosis of cattle, countries vary in their methods of control. Where it is possible to prevent the introduction of infection into a clean herd, the method of diagnosing by the agglutination-serum test is largely practised. The ring or A.B.R. test is found useful for estimating the extent of an infection in areas and is in common use in some European countries. By the diagnosis of cattle reacting to the agglutination test and their removal and often slaughter, it has been possible to reduce the incidence of infected cattle and infected herds to a very low number in some parts of the world. In this country, unfortunately, the incidence of brucellosis in cattle has been so high that, up to the present, little success has attended this method of control. Sooner or later, many of the herds cleared of infection have become re-infected, with disastrous results. Vaccination, therefore, seemed to be the only practical method to adopt in controlling the disease and the now world-famous *Br. abortus*, Strain 19 vaccine has been in use on an increasing scale since 1943. Although vaccination is now the recommended procedure for dealing with brucellosis in this country it is hoped that a time will be reached when consideration can be given to eradication of the infection by a test and slaughter policy. It will be necessary, undoubtedly, to continue the present or a modification of the present policy for a considerable number of years but we are hopeful that the reduction in the incidence of the infection will make possible a change in policy towards total eradication.

It is of interest to observe here that the control of brucellosis is leading to the study of other infections associated with breeding. Some of the breeding diseases have been wrongly ascribed to brucellosis: in all countries in which

brucellosis is being controlled an incidence of abortions and of other diseases associated with breeding has been shown and research workers are now engaged in a study of their causes. The association of *Vibrio foetus*, for example, with infertility is now the subject of intensive research in several countries.

The position of mastitis in dairy herds calls for some comment. There is little doubt that its presence is intimately concerned with lowered dairy economy. The modern method of treatment and control, *viz.*, the use of antibiotics via the teat canal and the application of improved husbandry and methods of dairy hygiene, are now being adopted in most countries, and for some of the udder infections associated with mastitis the value of these control measures is well established.

Internal parasites as causes of ill-health and economic loss in animals do not appear to have been given the attention they merit. Their presence is world-wide in all types of animals and in many countries anthelmintics and husbandry control measures are commonly used.

These few remarks will serve to indicate some of the methods of control of disease in operation in different countries. Conditions in the various countries must, of course, determine to a marked extent the methods to be adopted: whether control as opposed to total eradication is to be the accepted policy. While we have been able through the valuable efforts of research workers and the practical work of field observers to show methods and measures by which some of the outstanding diseases can be controlled and finally eradicated, there is still some distance to go before we will be able to apply them on a large scale. In my view the day has passed when the individual animal can be considered all-important: our efforts must, I think, be devoted to animals in the mass in any country and finally to those in groups of countries, leading to a world-wide control and eradication of disease. Such a scheme is, I admit, brimful of difficulties, both national and international. No matter how bright or brilliant an idea may be it will always be subservient to conditions in a country and to the views of the leading veterinarians in that country. Administrative difficulties, some of much moment, will also arise and may even appear to be insurmountable. We must not, however, be content to slacken in our efforts in tackling this gigantic but all-important problem of controlling disease, simply because difficulties arise. Research work is being intensified in many countries: the causes of diseases are being established, the nature, methods and spread of infections are being worked out and control measures are being elaborated. There has been rapid progress in recent times. We will be failing in our duty if we do not exert every effort to ensure that the results of all that work are efficiently and successfully applied. Although much work is also in progress on the non-infectious types of disease, which are also the cause of economic loss, the world-wide problem is to control infections which can spread into all countries and cause death, loss of productive capacity or other losses. The morale of a population must also suffer from the presence of such infections and the danger of some of them to the human subject must never be under-estimated.

It is true that we have a number of organisations which meet at intervals to discuss veterinary problems and to debate, among other things, methods of control of infectious diseases of animals. Undoubtedly, these bodies, often international in character, are doing good work in drawing the attention not only of veterinarians but of other interested parties to the progress that is being made in our understanding and knowledge of diseases and their control. It is my considered view, however, that all that is being done in that direction does not go far enough: it falls short of the ideal which is to evolve a scheme whereby, gradually but surely, the livestock of the world will be freed from such infections as now prevail and are hampering to a marked extent food production, which we are told is so vital now and is likely to become an even more acute problem as the years go on.

I have been privileged during the past few years to take some small part in international veterinary affairs and have, among other things, visited a number of countries, where I have been able to discuss on the spot, difficulties in disease control. My views are now very definite in that, in addition to national schemes for the prevention, control and eradication of disease, no country will ever be in a secure position against invasion from disease until work on international lines is brought into being. It may be that methods and measures must vary according to local or national circumstances, but broad principles can surely be agreed and put into operation. I realise very fully what such a statement means: I know, from first-hand knowledge, the conditions in some countries, but I cannot depart from the view that enough is not being done by the veterinary profession and the administrators in the different countries to collaborate in efforts to rid the world of these highly infectious diseases. A beginning is being made and will be continued, difficulties will be overcome and I look forward to the day, even in my lifetime, when progress can be recorded.

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CATTLE DISEASES CONTROL IN THE NETHERLANDS

BY

Dr. L. P. DE VRIES,

SECRETARY, ANIMAL HEALTH SERVICE, THE HAGUE, HOLLAND

It goes without saying that I feel it a great honour to have been invited to tell you something about the organisation of the fight against diseases of cattle in our country.

We call our country " the Netherlands," but it is possible that you know it better under the name of Holland; however, in reality Holland is only a small part of the Netherlands, that in which the three largest towns are situated, namely, the capital Amsterdam, the residential town The Hague and Rotterdam, the well-known port.

Before I begin with my real subject, however, I have to offer you hearty greetings from the Dutch Veterinary Medical Association " de Maatschappij voor Diergeneeskunde in Nederland." The Dutch Association has requested me to ask you to look upon me as their representative during your congress; the President of the Dutch Association, Dr. Kramer, has asked me to deliver his special greetings to your President, Mr. Hodgman, with whom he had such a lively and agreeable contact during the congress at Utrecht, on June 7th to 9th, the so-called " Veterinary Week." (Applause.)

Our country covers an area which is not much larger than one-tenth that of Great Britain; our population amounts to more than 10,000,000 persons. On our farms and properties are kept as agricultural animals a total of

about 2,700,000 cattle (cows, bulls and calves), 2,300,000 pigs, 250,000 horses, 400,000 sheep, 23,000,000 hens and 600,000 ducks.

We have to do our utmost to grow enough food for all these animals; in addition do all we can to maintain our herds of cattle in as healthy and efficient a condition as possible. Besides this, we attach great value to exporting our products, both the live animals and the dairy products, in as healthy a state as can be. We try to secure this, in the first place, by giving our veterinary students an education which, in a six and a half years' course, has been directed as far as possible both to the practice and to the science of veterinary medicine and surgery. You will agree with me that the best guarantee for a good control of the diseases amongst our domestic animals is a sufficiently strong corps of well-trained and all-round practitioners. (Hear, hear.)

Whatever we undertake, everything depends upon how the local practitioner does his work. This applies especially to the eradication of diseases like tuberculosis and abortion and to the control of sterility. If one can point anywhere to an area where a disease is eradicated then one can take off one's hat to the local practitioners in that part of the country, because then they have done a very difficult part of the job; and the other difficult part has been done by the farmers. Yes, indeed, by the farmers. They have been obliged to reckon and to consider whether this or that reactor must be removed from the herd and whether they could find the energy and the money to put into practice the policies of isolation for their reactors and the substitution of non-reacting animals for reactors. In ascertaining these facts we in the Netherlands have been shown the way which we believe has to be followed in order to ensure success. How we try to do this, I will now tell you.

Before the war, for all diseases, we followed the method adopted in most countries. We still adhere to it to a great extent. We have a Governmental Law relating to diseases of livestock. Under its provisions there is a State Veterinary Service which has the task of looking to the general state of the health of livestock. Therefore the Government has under the Ministry of Agriculture, Food and Fisheries a Chief Veterinary Officer with his office, and in each of the 11 provinces into which our country is divided, a State Veterinary Inspector. More particularly, they have to control cattle-plague, pleuropneumonia of cattle (since 1870 these diseases have been eradicated in our country); foot-and-mouth disease, anthrax, rabies, mange and scab, sheep-pox, glanders, swine fever, foot-rot in sheep and now at present also Newcastle disease. The measures which must be taken under this Law relate in general to the isolation or the slaughtering of sick and suspected animals.

The most important disease of those mentioned is foot-and-mouth disease, that is to say it was the most important disease before the war. During the war we worked on the preparation of foot-and-mouth vaccine and now we are vaccinating our cattle with it. This is in the main a question of organisation, to which I shall revert later.

Before the war the control of tuberculosis was also in the hands of the State Veterinary Service. Different systems have been tried; in 1927 we had a new article brought into the Livestock Diseases Law, through which financial help could be given by the public authorities for the fight against tuberculosis.

In each province the work of the veterinary inspector provided propaganda for tuberculosis control; the farmer who joined this control scheme bound himself to have his reactors marked by a hole in the ear, while compensation was given for each clinical form which was slaughtered; furthermore, part of the expenses of the test were paid.

The number of farmers who joined this scheme was too few, however. In Friesland, the cradle of the Friesian black and white cattle, it was regulated in a special way. In 1919 they founded the Friesian Service of Health for Cattle, by co-operation between the Friesian Herdbook and the Union of Co-operative Dairy-factories. Every farmer who wished to join the Service of Health could become a member of that service; he paid his contribution and could then count upon receiving help and advice from the Service of Health in the fight against diseases—in the first place against tuberculosis, but also regarding abortion, sterility, etc.

The Service founded a laboratory with a veterinary surgeon, the late Dr. Veenbaas, as Director. He did all kinds of routine laboratory work (examination of sputum and milk), conducted autopsies, etc., and gave guidance to the practising veterinarians in the epidemiological sense.

The Service had (and has still) a committee of farmers which was responsible for the management of the Service and which discussed the different problems with the Director and his staff; furthermore, the Director, or the members of the committee, spoke about control and eradication and also about the prevention of diseases during the meetings of the farmers of the private dairy factories and at other meetings. The results were an improvement upon those shown through the measures which were made possible by government regulation. The farmers felt it to be more personal a business and were more interested in this work. I will now give you some figures.

In 1919 it was found that of the tested animals, 35 per cent. were reactors. In that year about 10 per cent. of the farmers joined the Service. In 1939, when the percentage of farmer members was about 60, the percentage of reactors was 8. To-day all the farmers are compelled to join the Service and the percentage of reactors has fallen to zero. It remains to be said that all the costs were paid by the farmers themselves.

The good results achieved and especially the interest which it was evident that these farmers had in the Provincial Service, made a great impression outside Friesland and the State Veterinary Service became very interested in the above-mentioned Provincial Service. Before the war in the other 10 provinces they tried to find means to establish similar Services of Health; this has now taken place, so that we now have a Service of Health for animals in each province. The difficulty was to get the money for those services. We have succeeded through the "Bedrijfschap voor Zuivel," the Institution for Dairy-products (which perhaps resembles the Milk Marketing Board in your country, but which is bound more strongly to the Government), in getting annually 5 cents, about one penny, from each 100 kg. milk, let us say from each 25 gallons milk, produced: this nets us annually about 2,500,000 guilders (about £2,500) and that money gives us a foundation for the money necessary for the work of the 11 Provincial Health Services. The rest of the money is paid by the farmers directly and this amounts to nearly the same sum. In the course of 1946 the several services were founded; prior to 1950 the farmers could join the Service voluntarily. We now have a Law that compels every farmer to join the Service of Health in his province. This includes the provision that, owing to the regulations, every farmer shall have his cattle tested annually for tuberculosis.

We now have a large organisation of farmers, the "Stichting voor de Landbouw" (which can perhaps be

translated by " Institution of Agriculture "), in which the three big farmers' associations are united, namely, the Protestant, the Roman Catholic and the Neutral associations; the provincial services of health for animals are more related to this institution than to the Government although the latter has a well-regulated system of supervision of the services—for instance, through approval of the regulations they are making and the budgets.

The central organ of the provincial services is the Committee of Health, Gezondheidscommissie voor Dieren, which is part of the Stichting voor de Landbouw. Its function is to co-ordinate the provincial services. Each provincial service has a representative on this committee; the Chief Veterinary Officer is a member of the committee.

I have told you already that everyone who keeps cattle must join the provincial service. This means that, under the regulations, his cattle must be tuberculin tested annually. We distinguish two things by the control: the technical side and the organising side. The technical part consists of at least an annual test of each herd, by the application of the tuberculin test (intracutaneous injection in the skin of the neck); the reactors are subjected to a clinical inspection. In May of this year the organising side obtained a new advantage after about two years of preparation. Besides the penny per 100 kg. milk which the services receive for their own upkeep, since May, 25 cents per 100 kg. milk are to be levied upon all herds during the next five years. This again is done by the Bedrijfschap voor Zuivel. The annual proceeds will be about 10,000,000 guilders. With this money a fund will be established. In these five years the State will also pay 50,000,000 guilders into this fund and in this manner a national fund of 100,000,000 guilders is now to be founded—half by the farmers and half by the State. I will tell you presently how this money will be used.

At the time of the annual test in 1949/1950—the first year that all the cattle were tested—we had 420,000 reactors in our country. The number of farms in the Netherlands is about 220,000; of these about 50 per cent. are free of tuberculosis. The farms which are not free pay, in addition to the amounts already mentioned (namely, the penny per 100 kg. milk for the maintenance of the services and 25 cents per 100 kg. milk for the national fund for the control of tuberculosis), 55 cents per 100 kg. milk; these contributions are also levied by the Bedrijfschap voor Zuivel. The money gathered by the levy of 55 cents is kept in a separate fund; if the herd has become free of tuberculosis on or before a date fixed for each herd separately, the keeper of that farm is repaid the amount which has been levied from him through the levy of 55 cents per 100 kg.

We take the initial 1949/1950 figures as a basis, and have laid it down that a farm where, in that year, a 10 per cent. reaction was found, has to be reaction-free before May 1st, 1952; farms with 10 per cent. to 20 per cent. reaction in 1953; 20 per cent. to 30 per cent. in 1954; 30 per cent. to 50 per cent. in 1955 and 100 per cent. in 1956. A herd which is not free within the stipulated period does not receive back the levy of 55 cents per 100 kg. milk and the levy will be continued for that herd; besides, the levy of 55 cents will be raised after 1954. As soon as such a herd, that is overdue, is free, however, the extra levy of 55 cents will be stopped. This system tends to free the herd on the basis of the financial interest of its keeper. The consequence of this system is that each farm that frees itself in time will get the levy of 55 cents repaid (we sometimes call it the " savings-levy "). But the farmer who has made his farm reaction-free *within time* can still claim something more. For each reactor which he has slaughtered, if this animal belonged to the herd in 1949/1950, was born in that herd after that time, or was bought in with a " white certificate " (which means that it comes from a tuberculosis-free herd) the amount of about 150 francs is paid to the farmer out of the fund which was formed by the farmers and the State. It must be mentioned that he will never get compensation for more animals than that corresponding with the number of reactors revealed by the tuberculin test in 1949/1950, nor will he get a premium before his herd is free and unless it is free in time.

You will see that all these things belong to the organising side of the work. This is only to be achieved with the help of the farmers' organisations and then only if they can let their voice be heard unchecked during the many discussions which are necessary in order to get such a regulation as is mentioned above, instituted. As you will understand, this regulation depends on many factors. Not only must the levies be executed; each time it must be known how much of the savings levy (55 cents) has been withheld from each farmer; also how much has to be repaid to the farmer at the moment he is free, and which cows were on each farm in 1949/1950. This must all be registered from month to month: it takes quite a lot of machinery to do that.

The cows are identified by the method of fixing a numbered metal ear-mark on all cattle and also by making a sketch of each cow (with a duplicate) on which the ear number of the cow is noted. The bringing about of such a mode of registration with identification (necessary not only for control of the tuberculosis, but also for that of abortion and in the fight against streptococcal mastitis) was quite a task.

The demands made of the farmer under this kind of tuberculosis control are to take care that:—

1. If he has a free herd, he keeps it free (he must remove every reactor directly from the herd after the annual test and show through a new test six weeks afterwards that the farm is really still free). Compensation is paid for the slaughtering of such reactor. When reactors are found in a herd formerly free, the levy of 55 cents starts immediately.

2. If he has not a free herd, he has one within the time fixed for his herd. He can do this by selling the reactor for life (in which case he cannot get compensation for it) or by having the animal slaughtered (in which case he can receive a premium for this reactor if the herd is free but not before that, neither if the herd is not free in time nor if the reactor did not belong to the herd in 1949/1950).

3. The disease does not spread. If a herd of 50 cattle in 1949/1950 had six reactors, then the man can never get more compensation than for six animals. Besides this, the herd with 12 per cent. reactors must be free in 1953. Should spread be noted, then the farmer still has to be free in 1953, but the amount paid him in compensation never can exceed that for six animals. In this manner the system compels to isolation—if the best isolation, namely, the removal of reactors, is not applied.

A fourth requirement is that the farmer has to replace his reactors by free animals. He can do this (under strict isolation) through his own breeding or through buying tuberculosis-free cattle.

In our country we have a large trade in cattle; in fact, there is probably no country in the world where cows are

dealt in so much as in the Netherlands. The trade in tuberculosis-free animals must be led in the right direction. We speak of *reactor-free* and *tuberculosis-free* herds. A herd is said to be reactor-free (each herd is tested at least annually) if the owner has declared by letter that the known reactors have been definitely removed from his farm and if a new tuberculosis test, carried out at least six weeks after the receipt of the letter by the Provincial Health Service, has proved that in that herd no reactors are now to be found. For the benefit of the sale of animals from a reactor-free herd *white certificates with a green overprint* can be obtained.

A reactor-free herd will be declared a tuberculosis-free herd if after a tuberculin test at least six months after the herd has been declared reactor-free, again no reactors are found. For cattle from a tuberculosis-free farm *white certificates* can be obtained.

As soon as a cow without a certificate is placed in a tuberculosis-free or a reactor-free herd, the whole herd is again declared contaminated and the levy of 55 cents starts again immediately, but as stated previously, without the possibility of repayment.

Besides this, the farmer who wishes to have a certificate, must ask for it in writing; in this letter he must declare that the animals from his herd have had no contact with reactors.

What has the practitioner, the veterinary surgeon, to do with all this?

1. Between the Dutch Veterinary Medical Association and the Provincial Services of Health there exists a contract in which it is stated that the Service will enter into a contract with each practitioner who works for the Service.

2. The Service of Health enters into a contract with the practising veterinarians who work for the Service, in which contract the Service declares that it will pay for the work the veterinarian does, the fee which has been agreed to by the farmers' institution, the Stichting voor de Landbouw, and the V.M.A.; and in which the veterinarians bind themselves to execute the various procedures for the Service according to the instructions received from the Service.

3. If a veterinary surgeon does not follow the instructions (which indicate what the veterinarian has to do with regard to the control of tuberculosis and how to do it) he can be fined up to 1,000 francs. In addition to this, he can be excluded from further work and be obliged to pay the damage which he may have caused his client or any other person.

In this manner the control of tuberculosis becomes practicable because the farmers themselves long to be free from the disease and proceed according to regulations which they themselves have helped to compose, but founded, of course, on technical advice. The basis of the principle is this, that the farmers are given information as to the damage a disease causes; then the opportunity is afforded them to control the disease of their own free will, for which purpose the Service of Health is established. When voluntary control has been enlarged to a certain extent, all farmers are obliged to submit to the regulations, which then have been perfected by the Service.

In passing, it must be stated that many conferences with cattle-traders, with the transporters of cattle, with the committees for the cattle markets and with others, also are necessary.

You will certainly all agree with me that the trade in cattle, their transport and the markets are the most important factors in the spread of infection. Besides this we have large common meadows, where in summer hundreds of cows of different owners are brought together. For these meadows, also, regulations must be laid down and all these things call for the wisdom of Solomon. The introduction of the certificates has been of extraordinary importance. They are now in demand through the whole country by every farmer who intends to make his herd free from tuberculosis or who already has a free herd. The difference in price between a cow with a white certificate and the same kind of cow without a certificate is about 200 guilders (£20) or more.

In order to give you some idea of the staff of a provincial Service of Health I may state that the Service in South Holland (at Gouda with 300,000 head of cattle) has, in addition to the Director, five veterinarians in full charge, one head administrator, two administrators, one cashier, one analyst first class, three analysts second class, seven assistant-analysts and 15 typists; besides these, there are five inspectors (non-veterinarians) who are always in the field. The committee consists of 14 farmers, the Inspector of the State Veterinary Service, the State dairy expert, the State cattle breeding expert and some other officials.

One thing further must be said about this manner of controlling a disease. Success is highly dependent upon an exceptionally good administration. The administration really is the bulwark of the system. And this has brought a revolution in the work of the practising veterinarians, because these also must have their administration in order and without fault, as everything has financial consequences. Many veterinarians have taken administrators into their service. The Services control these administrators in order to see whether their duties are performed with sufficient care. Should the veterinarian not devote enough care to his administration then he is punished or even dismissed. The veterinarian inspects the herd chiefly during the time the animals are in the byre; he receives from the provincial service a list of the farmers with whom he is concerned, mentioning the cows on the farm during the last test; the veterinarian deals with this list according to the situation he finds during the tuberculin test and sends it back to the Service with notes of the reactors.

It goes without saying that the technical work of the practitioner is also subject to very severe control. He informs the Service every evening by letter which herds he has tested with tuberculin that day; one of the veterinary surgeons of the Service of Health in full charge can, through this—although only by test at random—control whether the practitioner reads and measures the reactions in the right way and notes them in the right manner on the list on which he has to note the results of the test.

I believe, Ladies and Gentlemen, that I did not ask too much when, at the beginning of my speech, I invited you to salute the profession of the practitioner which, in so many respects, is woven into the system of the control of diseases such as tuberculosis, and the practitioner himself, who has to give the whole of his mental and bodily strength to the task of eradication.

We have in the Netherlands a number of areas which are free from tuberculosis; among others, Friesland with more than 400,000 cows, also the central part of Drenthe and some other areas. In these free areas, especially in Friesland, the eradication of Brucella abortion is being attempted. In the remainder of the Netherlands the injection of the heifers is strongly advised; the frozen dried vaccine, strain 19, is used. The results are quite good; but there are still disappointments. The farmers can have foetus and placenta examined in the laboratory of the Service of Health; also the blood samples taken by the veterinarians

are examined. Here you see the great advantage of having the laboratory quite near to the farmers (namely, in having a laboratory in each province). The results of the examination are sent by the Service to the practitioners, who can then consult with the farmer about the measures which are to be taken. In Friesland the farmers can join the voluntary organised scheme for the eradication of abortion; but they are only accepted in areas (for example, in the district of a dairy factory), if at least 75 per cent. of the farmers work together. If the degree of participation is smaller, then it is feared that the chances of contagion from outside (through the unexamined herds) are too great.

From the herds that have joined the control of all the milk-cows, three times annually a milk sample, mostly a sample taken from the milk-cans, is examined by the A.B.R. method at the laboratory of the Service of Health, followed by one blood examination, to determine the titre.

The farmers, that means also the practising veterinarians, then know which cows are positive reactors. In order to get the brevet "abortion-free," all reactors must be removed from the herd. Formerly, in connection with the control of tuberculosis, we had the situation that the farms could free themselves by selling their reactors freely over the whole country. This we have brought to an end as regards tuberculosis, because we are now so far on that the farmers look upon a cow without a certificate as a reactor. In the campaign against abortion we are trying to abolish this spread of the disease through removal of the reactors. Therefore we allow the organised control of abortion only in tuberculosis-free areas. The farmers who wish to join this control scheme can do so only if they commit themselves in regard to the Service of Health, that in the event of their wanting to sell a cow which is not free of abortion, they undertake to have the following note placed on the tuberculosis certificate: "The cow is not abortion-free." One may consider this a severe demand; nevertheless, the participation in Friesland is so great (already about 5,000 herds with 150,000 cows are under inspection) that they cannot allow any more to join at present.

For cattle from a farm which, during at least one year, has shown no positive tests either in milk or blood, certificates can be given which indicate that the cow comes from an abortion-free farm. This is especially important for the export of live cattle, but it is also of moment for the inland trade amongst the farms which are freeing themselves from abortion.

The task of the practitioner in this method of abortion control is the duty, after he gets the information from the Service of Health, of advising the farmer how he can get his farm free. In heavily contaminated farms during the first years vaccination is applied; with the less heavily infected herds one begins directly with elimination of the reactors.

Another important point is the control of streptococcal mastitis. This disease increases in some parts of our country in spite of the use of penicillin. Or is it through the penicillin? A thorny question.

Formerly, cows with mastitis often were removed from the herd. Now they remain in the herd after treatment with penicillin. But are they really free of streptococci? Or do they from time to time spread streptococci again (especially if the treatment was not faultless) and do they contaminate other cows? We do not know the answer. It is absolutely necessary that we get certainty about this. In some of the Services of Health, work on this subject is now being done. The milk from all the cattle of certain dairy factories is tested regularly; the udders in which streptococci are found (the type is determined by cultivation) are treated with penicillin and the further course is accurately controlled. Although this type of mastitis is spoken of as a very important disease economically, the exact method of eradicating it in an organised manner is not yet quite clear; it is certain, however, that the practitioner will have to play a very important rôle in it, in all probability according to regulations laid down by the Service of Health. We hope that we can find a method by which it will not be necessary to expel the infected cows from the herd, but by which they can be treated. If this is found possible, we could combine it with the eradication of another disease, like tuberculosis, in the same herd.

The Services further organise the fight against warble infestation. I shall not go deeper into this, but this also is a question of organisation. Most of the Services have temporarily, during the springtime, about 40 to 50 persons in their service, who, with an emulsion of derris in water, brush those cattle with warble larvae in April, May and June—that is, three times with about four weeks in between. If one leaves the treatment to the farmers themselves the animals are not treated or not sufficiently so. Especially is the treatment in June very important, but, as the cattle are then in the field, very difficult, because the heifers are often a very long distance from the farm. The practitioner in our country has not much to do with this control. The costs of the control are about 50 cents per cow (10d.), but I think that the Services pay something on top of this themselves (by, for example, giving the derris).

Another very important point of discussion at the monthly meetings of the Directors of the Services of Health for Animals is infectious sterility. At the Service in Friesland the staff has determined the significance of *Vibrio foetus* as one of the causes. Just as with Trichomoniasis, the therapy here is artificial insemination. The Services advise the owner of a herd where sterility occurs what to do as soon as the diagnosis, if possible, has been determined (in conjunction with the practitioner).

Abortion is not considered to be a cause of infectious sterility (epizootic sterility) in our country. A very difficult thing still remains, the so-called "herd-sterility," sterility in the herd of a type that is not transmitted by the bull to other herds.

I promised to tell you something about foot-and-mouth vaccination. We try to have all our cattle vaccinated at the end of the housing period, that is, from March to April. To get this done, in the winter the Services send to all the farmers a form on which they can indicate whether they wish to have their cattle vaccinated. The Service passes on to the practitioners information as to where they must go to vaccinate the cattle. These can then visit their clients systematically. Furthermore, the Services make propaganda for this vaccination by means of film and word.

After the war we had very little foot-and-mouth disease. We do not try to stamp it out as our borders are too vulnerable. In some areas about 100 per cent. are vaccinated; the average is 50 per cent. to 60 per cent. We are quite content with this vaccination; since its adoption we have been freed, at least up till now, from awful years, such as we had before the war, even in succession. Here we may acclaim the scientific workers in our profession who have found the way to make this vaccine, which in the hands of the practitioner has done so much for the benefit of cattle breeding and for the distinction of our profession. (Applause.)

One further disease with which the Services have been occupying themselves in the last year may be mentioned. It is infection of cattle and sheep by the liver-fluke. The

damage of liver-fluke infection goes up yearly to many millions of guilders by loss of milk, meat and wool. Mrs. Wibaut Isebree Moens has pointed out that the small snails that harbour the intermediate forms of the liver-fluke live on the borders of the furrows if these are wet (which generally is the case in our country) and that those snails are killed by sprinkling salt at the sides of these furrows. In this manner it is possible to break the cycle of existence of the liver-fluke. The provincial Services of Health, in co-operation with the Central Institute for Correction of the Soil, are now organising in some districts the treatment of the borders of the furrows with salt (ordinary kitchen salt).

I do not know whether it was the intention of the National Veterinary Medical Association to let me tell you what I have told you; please excuse me if it was not what you expected. At any rate I thank you for listening to me.

I cannot end, however, without offering to your country the thanks of the Dutch scientific workers and practitioners for the very hospitable manner in which, not only directly after the war but also continually since, you have allowed our representatives of the profession to take note of the progress which you in your institutes (and I think in the first place of Weybridge) and also in the field, have made in such a magnificent way. This contact has stimulated us very much in the work which we are now doing. We shall always remain grateful to you for this. (Applause.)

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VETERINARY MEDICINE IN THE UNITED STATES OF AMERICA

BY

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Veterinary medicine is a highly specialised profession, which is our first line of defence against diseases pertaining to animal and man. Through research we are constantly adding to our disease control potential. Can we, as veterinarians, faced with another period of stress, continue and even improve the disease control record achieved during the past few years? I believe we can.

With our constantly improving methods of education, disease control and eradication, public health, research and improvement in drugs and biologicals, we are gradually strengthening our guard against disease hazards. From long experience in the control and eradication of diseases in the United States we came to the conclusion some time ago that the degree of success is directly related to the degree of participation of livestock producers in our programme. There must be a majority opinion that the immediate sacrifice is but a small tribute compared with the eventual gains that come with freedom from a particular disease. What appeared to be a miracle of disease control and eradication was, in fact, the result of a combination of hard work by the practitioner and the fruition of years of research effort aimed at increasing disease control efficiency and the co-operation of the American farmer. It did not come about as an over-night push-button operation. However, quick and timely disease control gains were accomplished with the help of State and Federal Governments.

To be able to carry on the work of disease control and eradication we must have highly trained veterinarians. Our educational requirements have steadily increased and at present we require a student of veterinary medicine to complete two years of pre-veterinary work before he is eligible to make application to study veterinary medicine, which is four additional years of study. To be able to accommodate the large number of students we need each year in order to carry on the veterinary programme, we have at our disposal the educational facilities of 17 schools of veterinary medicine in the United States of America and two schools of veterinary medicine in Canada. Upon completion of the six-year course of study, the student may enter one of the following fields, which are listed below with the approximate percentage of veterinarians engaged in each :—

	per cent.
General or mixed practice	54
Large-animal practice	22
Small-animal practice	10
Specialised practice, such as bovine, equine, swine, poultry, etc.	6
Federal Government in its various departments and bureaux	12
State Government	7
Local government, pertaining to local disease control and public health	2·6
Armed Services	2·4
Teaching and research	6·5
Commercial, pertaining to the development of new drugs and biologicals	2·5

The percentages total more than 100 because of duplication in some categories, but I believe that they will give you some idea of the number of veterinarians in each of these fields. We have, at the present time, about 16,000 veterinarians in the United States to carry on our programme of disease control and eradication.

Our practitioners are our main line of defence in the control of animal diseases. The great majority of them are strictly private practitioners. A few veterinarians derive a small part of their total income from Government work, most of which is for disease control work which is on the per day or per head fee rate.

Diseases such as hog cholera, rabies, and those which are dependent upon preventive immunisation, are controlled almost entirely by the practitioner. However, in the event of a serious epizootic, the Federal and State Governments do enter in and assist in solving the problem. Such assistance consists of research, advice, financial and enforcement aids. Strict quarantine laws are ordered immediately in such an epizootic, making it impossible to move animals either into or out of the infected area. After the disease has been eradicated successfully, the area is released from quarantine and the movement of animals into and out of the area is allowed.

In reference to work of the disease control programme by the Bureau of Animal Industry, the Bureau has held firmly to the principle that, in so far as possible, transmissible diseases of animals should be eliminated rather than just controlled. Down through the years its research has been directed largely toward finding how to eliminate animal diseases. Its first big undertaking was the eradication of contagious pleuropneumonia. As new knowledge developed, such other diseases as sheep and cattle scabies, foot-and-mouth disease, tick fever, dourine, bovine tuberculosis and fowl pest were either eradicated or brought under control. During the past several years work on tuberculosis has headed the list. In the past year an increased amount of tuberculin testing was completed and a few rather heavily infected herds

were uncovered. However, the average national incidence of the infection remained at 0·19 per cent, the same as that reported for the previous year. The 9,439,811 tests applied revealed 17,733 reactors, which were immediately sent to slaughter. During the year approximately 702,310 more animals were tested than in the previous year. The percentage of reactors since 1936 to the present has been less than 1.

At its 1949 annual meeting the United States Livestock Sanitary Association made a recommendation, approved by the Federal Bureau of Animal Industry, that with the exception of range and semi-range areas, no area may be accredited as tuberculosis-free after January 1st, 1951, unless all cattle in that area have been tuberculin tested at intervals not to exceed six years. The same maximum percentage of infection, half of 1 per cent., would be permitted, provided all herds showing infection have been properly quarantined until at least three consecutive clear tests have been completed at not less than 60-day intervals. These standard requirements are in effect in all states, Puerto Rico and the Virgin Islands.

Increased attention continues to be given to locating herds from which animals removed for slaughter have shown lesions of tuberculosis. A new form for reporting such cases has been approved by the Meat Inspection Division of the Bureau of Animal Industry as a possible further aid in tracing back to farm origin cases of tuberculosis first discovered at time of slaughter. The matter of permanently identifying all animals consigned for slaughter from the time they leave the farm is also being given further study. The combination of satisfactory marking and reporting procedures should provide an effective and economical means of locating sources of tuberculosis, thus supplementing area testing. Appreciation of the continuing importance of the remaining small percentage of tuberculosis infection, by all concerned with the problem, is of utmost importance. That bovine tuberculosis has the power to re-establish itself rapidly if given the slightest encouragement has been demonstrated frequently. The opinion that tuberculosis is a past consideration should not be entertained.

Another disease that is of great importance to the animal industry of the United States is brucellosis. More and more people are coming to recognise the huge economic cost that it entails to our livestock industry. They see also the great drain on human resources when undulant fever strikes its victims, the results of which are lingering and devastating. We gain confidence as we discuss new knowledge of brucellosis arising out of research ; thus we acquire new arms to carry into the battle. In spite of advances made, brucellosis is still a deadly enemy and a disease which must be eradicated. Our objective, therefore, with the support of the cattle industry and the general public, is toward action that will lead definitely to eventual eradication of brucellosis from domestic animals and, with this, elimination of the only source of infection in man.

Bovine brucellosis continues to be the most serious threat to the economy of the livestock industry with which cattle owners in the United States have to deal. This recognition by the industry and other interested groups was demonstrated during the year by very encouraging progress in all phases of the eradication programme. During the year 6,974,721 official blood tests (an approximate figure) were reported, an increase of 803,374 over the previous year, and a volume of work well in excess of any similar period since the war. As a result of this year's testing, 208,292 animals were classed as reactors, a drop in the infection rate from the 4 per cent. reported last year to 3·5 per cent. for this similar period.

The main point in a disease eradication programme is to have the co-operation of all people concerned. In this connection, as the Government prefers immediate slaughter of brucellosis reactors, an indemnity is offered. There is also offered a deferred slaughter and vaccination plan by which certain valuable animals can be used for breeding purposes and slaughtered within 6 to 12 months without federal indemnity. In the bovine brucellosis programme 70·8 per cent. of the reactors were removed for immediate slaughter, the remainder being held for later disposition under this plan.

Inasmuch as reactor elimination is an optional programme, the removal for immediate slaughter of such a large percentage of reactors is especially noteworthy, and reflects an understanding by the industry of the danger to both cattle and people of naturally reacting animals, as well as a knowledge of the comparative inefficiency of such cattle when retained for dairy and breeding purposes. Work completed during the year showed 84 per cent. of the herds tested to be free from infection, with an average of about 2·5 reactors per infected herd. In about half of the herds initially tested, prompt removal of reacting animals with immediate cleaning and disinfection of premises has eliminated all traces of infection.

During the year the United States maintained its freedom from foot-and-mouth disease. However, we operated a joint programme to eradicate foot-and-mouth disease in Mexico. This plan calls for maintenance of extensive quarantine activities, periodic inspection of animals within the quarantine zone, vaccination of all susceptible animals found to be healthy, marking of all vaccinated animals, slaughter and burial of infected and exposed non-vaccinated animals, and the cleaning and disinfection of contaminated premises.

Vaccinations increased steadily during the preceding year and reached a peak during December, 1949, and January, 1950, when 5,010,199 and 5,023,811 animals, respectively, were vaccinated. The first and second rounds of vaccinations of susceptible animals were completed, and the third practically so. A total of 41,421,300 susceptible animals were vaccinated during the fiscal year ending June 30th, 1950. The cumulative total of animals vaccinated was 59,570,206. It is planned to continue the fourth round of vaccinations until those areas where the infection has been known to exist have been covered.

With the termination of mass vaccination, made possible by a marked decrease in the number of outbreaks of the disease, emphasis was placed on inspection to locate isolated outbreaks promptly. As the animals are permitted to lose the artificial and temporary protection given by vaccination, careful inspection will reveal whether the programme has been effective.

You have reason to be proud of your record in the control and elimination of certain diseases. This is especially true with the complete eradication of rabies from Great Britain and Ireland. Elimination of rabies in the United States would be a large problem because of the vastness of the country and a potential reservoir in our wild life population. Our control programme originates at state level and is carried out by local veterinarians in conjunction with local authorities. The programme consists primarily of vaccination and quarantine. However, this is not always compulsory, but depends on the state and local ordinances. It is my firm belief that with a sound control programme, including compulsory vaccination and quarantine when indicated, on a nation-wide basis, the disease would be greatly reduced, with possible elimination in the course of time.

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THE EFFECT OF ATOMIC WEAPONS ON DOMESTIC ANIMALS

BY

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What was probably the largest sessional attendance of the week was present in the Floral Hall, Eastbourne, at noon on Tuesday, September 25th, 1951, when Dr. J. F. Loutit, a distinguished member of the Harwell atomic research team, gave his address on "The Effect of Atomic Weapons on Domestic Animals," with Brigadier A. G. Heveningham, O.B.E., M.R.C.V.S., Director, Army Veterinary and Remount Services, in the chair.

The CHAIRMAN: It is my pleasure to introduce Dr. Loutit, Chief of the Medical Research Unit at Harwell. The subject of his talk is an urgent one. Human beings and animals are subject to the same kind and degree of injury as a result of atomic explosion and what we are going to hear will be of interest to all of us.

Dr. LOUTIT: The title of this talk might lead one to suppose that I am going to talk about material which is restricted from a security angle, but that is not so. The biological effect of ionising radiation has been publicised quite widely by the Atomic Energy Commission of the United States. They have published a book, "The Effects of Atomic Weapons," through McGraw-Hill & Co. Inc. and anybody who wishes to do further reading on this subject can obtain the complete document from any of the usual booksellers.

Our knowledge of atomic weapons is limited. We do know, from the results of the two bombs exploded over Japan and the several trial bombs that have been exploded at Bikini and other proving grounds, that they are of varying size. The Japanese and Bikini bombs were said to be of the order of 20,000 tons T.N.T. equivalent, according to the semi-annual Reports of the United States Atomic Energy Commission, and according to the *New York Times* several bombs, larger and smaller than that, are now available to the Americans. For the moment, let us confine our discussion to what the Americans call the nominal bomb, that is, the 20,000 tons T.N.T. equivalent.

Firstly, I would say that this weapon is of primary use for its blasting effect. With the Japanese bomb a vast number of human casualties was caused by blast mainly due to the secondary effects from fallen buildings and flying debris. The second most important cause of casualties was burns. The clinical problem presented by the burns is not expected to be different qualitatively from what one is used to in medical practice. The difference is that a large proportion of the burns are due to the primary thermal flash from the bomb, not the ordinary contact flame burns with which we are accustomed to deal. The clinical reaction of the superficial tissues to the flash burn is similar to that which occurs with the flame burn and depending on the depth of the burn there are varying degrees of reaction. The only difference I would say in the case of atomic bombs is the magnitude of the numbers affected. If the human and animal population is exposed to the primary flash the number of casualties is likely to be extremely nigh.

The third cause of casualty from the atomic bomb is the damage from ionising radiation. In the case of the nominal atomic bomb it consists mainly of gamma radiation from two sources—from the fission processes of the plutonium and from the immediate release of the fission products which are radioactive. These two combined cause a flash of gamma ray radiation which for all practical purposes is instantaneous, spread over a matter of a second or two.

The nominal atomic bomb was exploded over Japanese cities at a height of about 2,000 feet in order to obtain the maximal blast effect. The lower the bomb is exploded the less wide is the range of effective blast effect; above that height you get a little beyond the range of the maximal blast effect. At Bikini the bombs were exploded at different heights, one in the air at a lower height, and one was exploded in deep water. At the first experimental explosion in the New Mexico Desert the bomb was exploded near ground level on a stand. According to the size of the bomb and the height at which it is exploded you will get different radii of physical effects, that is, the blast effect, the thermal effect, and the effect of ionising radiation. If we take the nominal bomb we can draw approximate radii such as obtained over Hiroshima and Nagasaki.

From a point immediately below the explosion in a circle with a radius of three-quarters of a mile there is the combined lethal effect of all these physical forces with almost complete destruction of buildings, except the most sturdily built, earthquake-resistant structures. There is an intense thermal flux which is not penetrating but in the absence of protection there is sufficient to cause deep third degree burns on the skin, to cause ignition to clothing, and in the case of domestic animals scorching of hair. Also within that radius there is a flux of gamma ray radiation which is lethal to man and to most, if not all, domestic animals. In the smaller central ring there is the additional flux of another ionising radiation in the form of fast neutrons from the fission process. For our purpose we can exclude the effect of fast neutrons because any man or domestic animal as close to ground zero as that will die several times, from the secondary effects of blast, from the thermal effects, and from the ionising gamma radiation.

In the case of a human population, one assumes that a large proportion might be in deep shelters or in surface shelters with a sufficient thickness of concrete or metal to give an effective protection not only against the thermal effects but against much, at any rate, of the ionising radiation, but I doubt whether domestic animals can be so accommodated.

In a wider radius up to two miles, that is between the three-quarters and two miles limit, one is beyond the lethal range of the ionising radiation but one will be within the range of flying debris and in the range of damaging heat effects. In the case of the human skin, up to two and a half miles, and probably up to four miles, one can get

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These diseases are but a few that the veterinarian of to-day has to deal with. However, his greatest ally in performing his task efficiently is the improving methods of education, research, and disease control and eradication.

The PRESIDENT: There is no discussion on these addresses but I am sure it is your wish that I should convey your thanks to Sir Thomas Dalling; Dr. de Vries and to Colonel Scott. Dr. de Vries, would you take the best wishes of the N.V.M.A. to your Association and personal greetings to Dr. Kramer from myself. (Applause.)

The proceedings then concluded.

second and first degree burns. The hairy domestic animal is likely to have better natural protection than man against this heat flux in the range of 1 to 10 calories per sq. cm. There might be a little scorching of the hair in the midway zone but my guess would be that in the periphery of the zone, at any rate, the hair of domestic animals will act as a natural protection. Apart from the intermediate zone, the ionising radiation will not be serious. Both the thermal flux and the gamma ray flux fall off extremely rapidly with distance so that while in the first three-quarter mile there is an extremely high flux of gamma rays farther away it rapidly falls to negligible amounts.

I will not discuss the clinical syndromes of blast effects, primary or secondary, or the thermal effects, although they will account for most of the casualties both to man and to domestic animals. I am going to talk about the clinical effects which one might expect from the ionising radiation, the gamma rays. Assume that domestic animals are in light barns which, although they might be blown over, will not cause lethal damage to the animals and which are of sufficient thickness to protect against the thermal effects. Then, provided the animals are not damaged by falling beams and the like, it is possible to envisage domestic animals being damaged only by the gamma rays of the bomb.

The great thing to remember about damaging effects of any ionising radiation, including gamma rays, is that radiation attacks the process of division and multiplication of cells. The cytologists can demonstrate structural changes in the chromosomes, fragmentation, cross-union and deletions. Cells with such chromosomes may be able to exist but usually cannot satisfactorily divide. In practice, that means that any tissue which is regularly and constantly reproducing itself is the one which is most likely to be damaged. Given that axiom, I think at any time you will be able to work out for yourselves which are the tissues which will be most affected. In point of fact, these are the lymphatic tissues, the haematogenic tissues, the germinal epithelium and the mucosa of the intestinal tract. These four stand out head and shoulders above any other. In a slightly lower degree of magnitude comes the skin.

What will be the effect of damage of the tissues which are constantly reproducing themselves? In the first place, from the pathologist's point of view, there will be an immediate and profound drop in the blood lymphocyte count. Within the first 24 to 48 hours, in the case of a lethal dose of gamma radiation, it will fall to 5 or 10 per cent. of the normal level and it will stay down there until death, or if it is a sub-lethal dose it will begin to recover about the fourth or fifth week. The next event is a fall in the polymorphonuclear leucocytes. There may be an initial rise in the polymorph count but that is very short-lived and by about the sixth or seventh day the count of the granular leucocytes will have fallen to the same level as that of the lymphocytes. The platelet count will behave in much the same way as the count of the granular leucocytes. The red cell count falls much more slowly and from that you can infer that the life in the peripheral blood of the lymphocytes is about five or six hours, of the granular leucocytes and the platelets of the order of two to four days, and of the red cell of the order of 100 days.

Within the first few hours human beings show clinically what is known as radiation sickness if the dose is sufficiently large, that is, if it is of the order of a lethal dose or half a lethal dose. Most domestic animals and experimental animals do not show this condition of radiation sickness which in the human being is characterised by nausea, vomiting and a feeling of profound prostration and muscular fatigue, with inability to drive the muscles to work. The experimental rodent hardly shows this preliminary phenomenon at all. The dog and animals which can vomit do show it. The first sign in the experimental animal—the mouse, the rat, the rabbit and the guinea-pig—is with a mid-lethal dose after about a week or a fortnight, depending on the exact height of the dose. Then a clinical syndrome of aplastic anaemia develops.

In the first place you get the signs which would be expected from agranulocytosis. No symptoms apparently are due to the lymphopenia which precedes the granulopenia. The function of the lymphocyte is still a mystery but it is thought by some to be bound up with the defence mechanism of the body and the production of specific antibodies. Certainly, in this post-radiation stage there is a profound depreciation in the ability of man and the domestic animal to form antibodies to a new antigen. If a primary antigenic stimulus is given after a heavy dose of radiation, the antibody response is delayed in some cases for many weeks. If a primary antigenic stimulus is given before the irradiation, the antibody response seems to be unaffected. I would say, therefore, that if there is any protective inoculation to be done it should be started before any liability of exposure to radiation.

The main effect of the radiation is clinically observable in the stage of agranulocytosis. Animals get spontaneous necrosis in skin and mucous membrane. The mucous membrane in the mouth and throat undergo this septic necrosis with a failure of the usual granulation tissue response. The bacteria just invade the tissue and there is no inflammatory barrier to oppose it. Particularly does this occur in the intestinal tract where, as you remember, the intestinal mucosa is also seriously damaged and ulcers throughout the small and large intestine occur. There is a bacterial invasion from the gut into the blood stream. With the lack of production of antibodies to new antigens the animal tends to die at about the second or third week following the mid-lethal dose with general sepsis and septicaemia.

In the later stages of the aplastic anaemia syndrome, after a fortnight or so, the lack of platelets and other factors in the clotting mechanism begins to make itself felt and at that stage, following on the agranulocytic picture, you get this haemorrhagic syndrome with haemorrhages into the skin, into the mucous membrane, with haematuria, and blood in the stools. This haemorrhagic syndrome is another major cause of death.

The genital epithelium is one of the most sensitive tissues of the body and radiation leads to temporary sterility. The skin is a tissue which is intermediate between the most sensitive and the most resistant. The effect on the skin will be shown largely as epilation. The gamma radiation is so penetrating that less energy is absorbed in the superficial tissues and the skin than with longer-waved X-rays. Radiation burning, unless one is extremely close to the source of the gamma rays and the flux is extremely high, is less frequent than with X-rays.

In the critical mid-lethal dose range one will expect epilation to occur, and one will expect after rather superficial wounds from debris of any sort or even from minor punctures a loss of powers of repair of the skin so that invasion of these wounds by bacteria is to be anticipated and as far as possible an aseptic technique should be followed in the handling of any such wounds.

Let us now consider the important sub-lethal effects. One must talk about dosages even though I do not define the unit of dosage—the Röntgen. 500 R is considered to be a 50 per cent. lethal dose for man and the mortality curve is accepted to be sigmoid with mortality beginning at about 300 R and being 100 per cent. at 700 R. We have not a great deal of information about the relative sensitivity of domestic animals. The rabbit is the most resistant experimental animal and the guinea-pig and the dog are the most sensitive animals. The pig and goat are comparable with man, rather in the middle of the range. I know of no comparative studies of horses, cows and sheep, but one could expect them to be within that range. If the domestic animal receives a dose between mid-lethal and something of the order of 100 R we may expect to see the radiation syndrome in a mild form. The animal will have a milder but not fatal degree of anaemia, and in the absence of other damage will be expected to recover, but if in addition to this sub-lethal dose of radiation it has minor surgical trauma or has a moderate or severe burn, the combined effects of the radiation syndrome and the other damage is likely to be fatal. The two will act together in terms of upset to the animal. The sub-lethal amount of ionising radiation will cause a failure of the normal recovery processes from trauma and burns.

That is the major effect which we have to expect from atomic weapons. The strategists expect that these bombs if they are dropped will be dropped and exploded in the air at a height at which it is calculated they will do the maximal physical damage from their blast effect. Strategists do envisage that for highly specific targets the bomb may be exploded at a lower level. The great feature of the nominal bomb, as exploded at Hiroshima and Nagasaki, was that it was exploded at such a height that virtually all fission products went up into the stratosphere and there was no problem about the deposition of radioactive fission products on the ground. If the bomb is exploded at the height of the New Mexico test explosion, say 100 feet, one would expect quite a significant proportion of fission products to be deposited in the immediate locality. In this country, even with a nominal bomb exploded fairly high in the air, the rain can bring down these products upon us so that the effects of radioactive fission products have to be considered.

It must not be forgotten that fission products can be obtained not only from bombs but from atomic piles and put into containers and dropped either as a radioactive missile or as a psychological warfare weapon. This radiological warfare is a possibility but is not probable because of certain technical difficulties. Fission products are isotopes of elements in the middle of the periodic table, most of the elements which the ordinary biologist has never heard of, elements from atomic weight of about 75 up to 150, including the rare earths. Some of these fission products will be deposited as an oxide and most of the oxides are insoluble in water, but it cannot be said dogmatically that they will be insoluble in body fluids. Also among the fission products are one or two elements of which the oxide is soluble, for example, barium and strontium, alkaline earths which will be metabolised in the same way as calcium in bone, and the element caesium which behaves like sodium. Furthermore, amongst the fission products is iodine which will be liberated in an elementary form. Iodine can be absorbed from the atmospheric air through the lung and specifically located in the thyroid. Other fission products present in the atmospheric air can be absorbed from the lung if they are soluble in body fluids. If they are deposited on the ground and on herbage they can be consumed by the herbivorous animals and the strontium, barium and caesium will be absorbed. What are the hazards from these? Unless the concentration on the ground is extremely high it is unlikely that the deposition of these radioactive fission products would produce any immediate symptoms, but the great faculty of radioactive isotopes is to produce new growths.

These long-lived strontium and barium isotopes go to bone and may be expected to produce ultimately osteosarcoma. I know of no parallel in domestic animals, but in man one has the well-known radium dial painter's poisoning, where the early painters not taking adequate precautions against the radioactive material which they handled, absorbed through their lungs and intestinal tracts radium which, like strontium and barium, is in the group of alkaline earths and is deposited like calcium diffusely in bone. These workers suffered in large numbers from this osteosarcoma and osteitis or bone necrosis. Similar lesions would be expected in the case of animals which pick up significant quantities of radioactive strontium and barium.

If fission products are present in the air in sufficient quantities some of the insoluble oxides may be drawn into the deeper recesses of the lungs. The bulk of these insoluble oxides will, of course, be deposited in the upper respiratory tract and be coughed up or swallowed or whatever the domestic animal does with its sputum, but a certain amount will get into the lung. It certainly does in experimental animals and it may ultimately be expected to produce by radiation in the lung and the adjacent bronchi, new growths. The elementary iodine absorbed from the air or the intestinal tract will locate in the thyroid and may cause in the days to come, depending on the dose, symptoms of hypothyroidism or thyroid neoplasm.

Finally, if there is an extremely high concentration of fission products in the air and this high concentration gets deposited on the skins and coats of the animals, the radioactive fission products mostly being *beta* ray emitters will be expected to damage the skin of the animals and might in sufficient concentration cause radiation burns of the skin.

These probabilities are extremely low but they do deserve consideration from the veterinary angle. If I understand the strategists aright, it is expected that atom bombs will largely be dropped not over agricultural areas but over industrial areas and areas with high concentrations of men and materials, but it is always possible that within that area there may be something like slaughter yards where there is a high concentration of domestic animals, so that the problem has to be faced. The probability of atomic bombs being dropped over agricultural land is low and can only be expected, I think, from miscalculation or accident on the part of the air-crew. The effects might be expected to be extremely local, but the person on the spot, in conjunction with any Civil Defence authorities, will have to sort out the problem.

The Chairman: As there is to be no discussion it only remains for me to express to Dr. Loutit our great thanks for a most instructive and interesting address. (Prolonged applause.)

It is noticeable that working horses have brought advanced prices at all sales this year, particularly the active clean legged type the society produces. Horses grow into money, whereas tractors and tractor implements with the mounting cost of repairs, show continuous depreciation.—Major Fairfax Blakeborough, at the annual meeting of the Cleveland Bay Horse Society.

PAPERS AND DISCUSSIONS

No. I.—JOHNE'S DISEASE—ITS DIAGNOSIS AND CONTROL*

BY

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The Floral Hall at the Winter Garden, Eastbourne, was well filled on the morning of Tuesday, September 25th, 1951, for the session devoted to the consideration of Dr. A. Wilson Taylor's paper, when the chair was occupied by Dr. A. D. McEwen, of the Moredun Institute, with Mr. J. A. Pasfield, of Horsham, as Recording Secretary.

The CHAIRMAN, opening the session, said: At this meeting we are considering Johne's disease. The subject will be introduced by Dr. Taylor, who has contributed materially to our knowledge of Johne's disease. Dr. Taylor's paper has been circulated to members of the Association and will be taken as read. Dr. Taylor has agreed to give us a brief résumé of his paper before the discussion is opened by Mr. Matthews, who has had a wide experience in the problems and difficulties confronting us in the control of this disease.

In his paper Dr. Taylor has pointed out that in recent years there has been considerable success in the control of tuberculosis, contagious abortion and mastitis but no similar success attends the control of Johne's disease. These four diseases have often been bracketed together and we have already heard at not a little length of the success which has attended our efforts to control three of them. It seems appropriate therefore that we should turn our attention to Johne's disease, which has proved the toughest problem of the four and which in virtue of its mere resistance to control is of ever-increasing importance.

Dr. A. W. TAYLOR: I have little to add to my paper by way of introduction but there are one or two points that will bear emphasis. The first is the distinction that we should make between infection wtih *Mycobacterium johnei* and clinical Johne's disease. The infection is now thought to be very common, but I am not so sure about the actual clinical disease. Further, one is almost inclined to regard this organism as only potentially pathogenic; I hesitate to suggest that it is a normal inhabitant of the animal, but the cattle which are infected so outnumber those which show the clinical disease that there would seem to be little relationship between them.

With regard to vaccination against Johne's disease, the Agricultural Research Council have been running a field experiment on this aspect of control during the last few years. This work has not been published so far and in consequence was not mentioned in the paper, but I understand that Mr. Matthews is going to say something about it.

Dr. Taylor's paper was as follows:—

The Annual Congress of the National Veterinary Medical Association last discussed the subject of Johne's disease in 1933, when a paper was presented by Dr. Minett. He reviewed much of the knowledge of the disease at that time and laid special emphasis upon differential diagnosis and the use of johnin. While the years since 1933 have seen the development and widespread use in veterinary science of the antibiotics, PPD tuberculins and of S.19 vaccine and while vast strides have been made in the control of streptococcal mastitis, tuberculosis and contagious abortion by the use of these products there has been no comparable advance in our knowledge of the control of Johne's disease.

By the term "Johne's Disease" is currently understood a chronic disease of cattle characterised by progressive emaciation and diarrhoea, but it is now recognised that the actual disease is considerably less common in cattle than is infection by *Mycobacterium johnei per se*, as it is now known that a high proportion of animals, in what appears to be normal health, may in fact be infected by this organism (Taylor, 1949).

This paper has been written as an account of the trend of thought on Johne's disease as expressed in the literature since 1933. It shows that despite some recent advances in our knowledge of the incidence of the infection and of the bacteriology of the disease in cattle and sheep, the deficiencies in our knowledge of its diagnosis and consequently its control are almost as great as ever.

DIAGNOSIS DURING LIFE

FAECES EXAMINATION

The diagnosis of Johne's disease by the clinical signs and microscopical examination of faeces is well known. It has been our experience, however, that one is unlikely to find the groups of organisms which alone will confirm the diagnosis in stained films of faeces in the absence of clinical signs of the disease. Working with experimental cattle, we did not find groups of bacilli in the faeces until the animals were obviously not in normal health. It is our practice, with Levi (1948a) and Doyle and Spears (1951), to examine direct smears of faeces stained by Ziehl-Neelsen, as other methods tend not only to concentrate the Johne bacilli but also the acid-fast saprophytes which may be present in very large numbers and distract the eye from the much smaller Johne bacilli; further, the diagnostic groups tend to get broken up after concentration with antiformin or ether.

Cultural examination of faeces, however, using antiformin and a reliable medium (Taylor, 1950), will reveal the presence of organisms many months before these become apparent in stained films. The method has been used with success at Compton in tracing the infection in experimental cattle and in natural cases where organisms could not be found microscopically. It cannot be too strongly emphasised, however, that this method is of little value as a routine diagnostic procedure. It consumes a great deal of time in the laboratory and even when successful is slow; a positive result can rarely be given before four to six weeks and a negative answer is of little or no value.

BLOOD EXAMINATION

It was shown by Stewart, McCallum and Taylor (1945) that in Johne's disease in both cattle and sheep the blood magnesium is low and may be very low and it was suggested that this test might be of value in establishing a diagnosis. However, since a low blood magnesium may have a variety of causes, more work on this aspect of the problem is required to determine the practical value of this test in the diagnosis of the disease.

SEROLOGICAL TESTS

It is well known that infections by the pathogenic mycobacteria cannot be differentiated by serological methods. In certain circumstances, however, the complement fixation test may be of considerable value, as Sigurdsson, Vigfússon and Theodors (1945) have shown in Iceland. There,

* Presented to the 69th Annual Meeting of the National Veterinary Medical Association, at Eastbourne, on September 25th, 1951.

Johne's disease in sheep is a recently introduced infection and has spread rapidly, but by means of a complement fixation test using an antigen derived from infected intestinal mucosa, infected animals may be detected with some considerable degree of accuracy. Positive reactions to Sigurdsson's test are obtained, however, with sera from cases of tuberculosis and leprosy in man and it is therefore, in common with other similar tests, not specific for Johne's disease. In testing cattle in Great Britain, where the incidence of both tuberculosis and of " non-specific " infections is known to be high, there may be considerable difficulty in the interpretation of such a test.

Allergic Tests

Ever since Olaf Bang (1909) announced that cattle with Johne's disease reacted to injections of avian tuberculin and Twort and Ingram (1913) first announced the production and use of johnin, the advantages of one have been argued against the other. It is not proposed to discuss the matter at length here, but it should be realised that there are many difficulties in the production of a specific product. Firstly, to prepare johnin in a manner similar to tuberculin, it is essential to use a strain of *M. johnei* that has been adapted for growth on the surface of a synthetic medium, free from *M. phlei* or its extracts or tuberculin. In other words, an old laboratory strain is used. Now the metabolism of such an " adapted " strain is very different from that of the organism as first isolated from cattle ; whether such strains will still infect cattle is not known, and whether the johnin produced from them is the same as the hypothetical product of a recently isolated strain is also unknown. In the standardisation of johnin the method originated by Glover (1941), *i.e.*, the use of guinea-pigs sensitised by the inoculation of *M. johnei* suspended in liquid paraffin, is commonly used. It is economical and the reactions obtained can be measured with some degree of precision, but Green (1946) believes that the specificity of johnin may be greater in the artificially sensitised guinea-pig than in cattle. He has shown, using PPD material, that in guinea-pigs only 3 units of avian PPD are required to match 1 unit of johnin and *vice versa* and stated, " Limited tests on cattle suggest that the difference is even smaller with that species and much the same reactions are produced by both PPDs in non-specific infections. Hence a johnin test adds nothing to the information gained in the ordinary comparative test using mammalian and avian PPDs. If the comparative test shows an infection to be non-mammalian, other means than tuberculin testing have to be adopted to show whether that infection corresponds to Johne's disease, . . ."

On the other hand, there are numerous references in the literature to the testing of cattle in infected herds with johnin, and many authors have found that the percentage of positives to their johnin test was as high as 30 or even more, although the clinical incidence of the disease might be low. Similarly it is well known that many herds show an equally high percentage of " non-specific " reactors to the comparative tuberculin test. It is somewhat outside the scope of this paper to discuss non-specific sensitivity to the tuberculin test, but it has been shown recently that from 15 per cent. of what are to all intents and purposes healthy cattle, *i.e.*, graded cattle slaughtered for the Ministry of Food in Newbury, *M. johnei* may be isolated in culture from the ileo-caecal lymph node (Taylor, 1949; 1951, in preparation). As it is possible that any cultural test for the detection of *M. johnei* is little more than 50 per cent. accurate when positive, it is conceivable that the true figure of infection is in the region of 25 per cent. to 30 per cent., a figure which corresponds very closely to that given as the number of positive reactions to johnin in infected herds. Hence it may be possible that the sensitivity produced to either johnin or avian tuberculin, in fact, may be evoked by a true infection with *M. johnei* in the majority of so-called " non-specific " reactors. It is unfortunate that most work on the testing of cattle with johnin has been done on commercial cattle and not on experimentally infected animals with a known history. Our experience with the latter at Compton is as yet very limited, but there is a tendency in these animals for the reactions to avian tuberculin to be well marked and at their height six to 12 months after infection, but they tend to fall with the onset of clinical signs. Mammalian tuberculin also causes a reaction ; it is never so severe as that to avian, but taken by itself might often be regarded as positive. On the other hand, we have isolated *M. johnei* in culture from the lymph nodes of apparently normal animals whose test history was known, and which at no time during their lives have reacted to either tuberculin.

Johne's Disease in Sheep

Johne's disease in sheep in this country perhaps may be a more frequent cause of loss than is generally realised, but it commonly occurs sporadically in a flock and its presence may be unsuspected. McEwen (1939), however, has described an outbreak in which serious losses occurred. He found the johnin and avian tuberculin tests unreliable and although organisms may be found in the faeces of affected animals, the diagnosis may be more readily established by the slaughter and *post-mortem* examination of one of the affected animals.

Post-mortem Diagnosis

The confirmation of a diagnosis of clinical Johne's disease may normally be obtained at autopsy, although the greatly thickened " hose pipe " type of intestine is not now quite so commonly seen, probably because in an endeavour upon the part of the owner to salvage the carcase, many animals are disposed of before the lesions become so advanced.

The difficulty arises when no characteristic lesions are found. A slightly flushed surface of the mucous membrane of an otherwise normal intestine, with much viscid mucus and petechial haemorrhages, are said to be indicative of Johne's disease, but in our experience these are often unreliable signs of infection. Petechial haemorrhages on the crest of the folds of the mucous membrane may indicate the site of early lesions but they may also be caused by the method of slaughter as they are present almost invariably in the intestine of cattle that have been stunned and pithed before bleeding. Early lesions may be difficult to distinguish macroscopically from normal bowel and recourse must be made to microscopical or cultural methods. Microscopic examination of stained smears of the mucous membrane will confirm the diagnosis but if lesions are not obvious their preparation and thorough examination is a laborious process and, further, very few organisms may be present. Working at Compton with experimental cattle we have found the cultural method to be more satisfactory in such cases. If no lesions are found the intestine is divided into convenient lengths of from 6 to 10 feet. From each of these, ten to 15 small pieces of mucous membrane are removed with scissors, mixed and ground with oxalic acid to control contamination and sown on several bottles of a suitable medium (Taylor, 1950). Thus 50 to 60 bottles of medium may be used for the small intestine alone. The process is both laborious and expensive in time and material, but has yielded good results in experimental

animals. Alternatively, cultures may be made from the ileo-caecal lymph node as we have found that in every case we have examined so far, when *M. johnei* was recovered in culture from the small intestine, it was also present in the lymph node, even when the number of organisms was very small indeed. Thus from one experimental animal, a single colony of *M. johnei* was recovered from over 60 bottles of medium inoculated from the small intestine, but it also grew in culture from the lymph node. A series of films or impressions from the ileo-caecal lymph node, therefore, may be of some value in the *post-mortem* examination of field cases and is considerably less laborious than the microscopic examination of the intestine.

The early workers on Johne's disease believed that in the animal body the causal organisms were confined to the lesions of the disease in the intestine and to its associated lymph nodes and this opinion has never been questioned seriously. Various authors, whose work in this connection was reviewed by Levi (1948b), have described its occasional isolation from other sites but none has described the infection as being widespread in the body. It has become the custom at Compton when examining cattle at autopsy to prepare cultures not only from the intestine and the mesenteric lymph nodes but also from the liver, lung and spleen, and from the submaxillary, retropharyngeal, hepatic and broncho-mediastinal group of lymph nodes and occasionally from the iliac, prescapular and supramammary. By the use of oxalic acid to control contamination and a suitable medium, *M. johnei* was isolated with almost unfailing regularity from all these sites. In view of the fact that these isolations had been made from cattle infected experimentally, a number (actually 15) of field cases have been similarly examined with exactly the same result. In other words, *M. johnei* may be recovered in culture from clinical cases of the disease not only from the classical sites but also from many of the other tissues (Taylor, 1951b). It is thought that this finding may be based on two facts; firstly, organisms present in the mesenteric lymph nodes or for that matter in the intestinal wall must occasionally, by sheer weight of numbers, find their way into the blood stream and thence throughout the system. *M. johnei* is known to be an organism resistant to destruction within the animal body and in all probability it may remain as a commensal for long periods in many of the tissues and glands. Secondly, the technique of the isolation of *M. johnei* in culture from tissue has been greatly improved in recent years (Taylor, 1950) and there can be little doubt that the isolation of the organism from these so-called unusual sites is dependent purely upon this improvement, as the bacilli are not normally present therein in large numbers. The exception is provided by the acute septicaemic type of the disease, which is uncommon. It may occur occasionally in animals showing clinical symptoms and is characterised by acute haemorrhagic enteritis with the passage of blood and enormous numbers of organisms in the faeces. At the *post-mortem* examination there may even be ulceration of the mucous surface of the bowel. From such a case an almost confluent growth of colonies may be obtained in culture from such tissues as the liver and lungs.

Sheep

The presence of the lesions of Johne's disease in the sheep may pass unnoticed at autopsy unless specific search is made. The existence of at least two varieties of the disease in sheep in this country has been suspected by several authors and recently has been confirmed by the isolation in culture of a strongly pigmented organism which may be presumed to be a variety of the classical bovine type of *M. johnei* (Taylor, 1951a). The form of the disease caused by the bovine organism has been recognised for many years; the intestine is usually thickened but without marked corrugation and the bacilli, although they may be sparse in stained films of the mucous membrane, are normally present in greater numbers than is usual in the bovine disease. The second form, from which the pigmented variety has been isolated, has so far been recorded only in Scotland, where it is known to be widespread in its distribution (Taylor, 1945). It may be recognised readily at autopsy by the orange colour of the lesions in the intestine, which may show little or no thickening. Films or smears prepared from such lesions show the bacilli to be present in enormous numbers comparable only to those seen in the form of tuberculosis in wood pigeons originally described in this country by McDiarmid (1948).

CONTROL

If it be accepted, and there is no evidence to the contrary, that only young animals can be so infected by Johne's bacilli that they may develop clinical signs of the disease in later life, and also that the organisms are to be found only in the faeces of infected animals, then it would appear essential to rear calves as free as possible from contact with the faeces of their elders. The more obvious methods of control, such as the early detection and removal of clinical cases, the provision of a clean water supply, the fencing of ponds, etc., should not, of course, be abandoned, but good results may sometimes be achieved by removing the calf from its dam at an early stage in its career and feeding it by hand. It should be remembered that cows may excrete numbers of organisms with their faeces for many months before clinical symptoms become apparent and that very young calves are the most susceptible to infection. In this connection, it was shown experimentally by Hagan (1938) that calves kept free from infection for the first four months of life but subsequently maintained in an infected herd did not contract the disease.

Vaccination

The value of vaccination against chronic infections such as are produced by the pathogenic mycobacteria is notoriously difficult to assess, as witness the world-wide controversy, argued for many years, over the use of B.C.G. It is normally impossible to conduct properly controlled experiments on tuberculosis in man, which explains much of the difficulty with B.C.G.; but the veterinary research worker is more fortunate in this respect, in that he may undertake controlled experiments with diseases in their natural hosts, all of which may be artificially infected, tested, slaughtered and properly examined. It is, therefore, perhaps surprising that such work has never been adequately done in the case of vaccination against Johne's disease. Vallée, Rinjard and Vallée in 1934 announced good results following the use of their vaccine upon many thousands of animals in the field but so far as the writer is aware there is little evidence, based upon controlled experimental work, which would enable a true assessment of the vaccine to be made beyond that published by Hagan (1935). He used ten vaccinated and ten control calves and found that although the vaccinated animals became infected they withstood the actual disease better than did the controls. In Iceland, Sigurdsson and Trygvadóttir (1949), using killed laboratory strains of *M. johnei* originally

isolated from cattle and suspended in liquid paraffin, found that a "powerful and protracted serological response" followed its subcutaneous inoculation into sheep, while in this country, Doyle (1945) has shown that the subcutaneous inoculation of a similar vaccine may be regarded as harmless to cattle. The use of vaccine in this country, however, where tuberculosis is still a common infection among cattle, presents several difficulties, chief of which is the type of reaction given to the comparative tuberculin test by vaccinated animals. Ritchie and Robertson, who are studying this problem at Edinburgh, have produced evidence in a personal communication that the comparative test is incapable of distinguishing between cattle vaccinated against Johne's disease and animals which have an infection with bovine tubercle bacilli superimposed upon vaccination. In other words, vaccination against Johne's disease will mask tuberculosis infection as judged by the test. This is a serious difficulty, and in these times, when a real attempt is being made to eradicate bovine tuberculosis, may preclude the use of vaccine except in known tubercle-free areas.

Treatment

The use of iron, formalin, etc., in the treatment of Johne's disease has been generally discredited, but the idea of therapy has been stimulated recently by the widespread use of antibiotics. Of these, streptomycin is said to be active against *M. johnei in vitro* and it has been used in the United States (Larsen, Vardaman & Groth, 1950) but without conspicuous success, possibly because the cost of the drug prohibits its use over an extended period in adequate dosage. Within the last two years several authors (see Francis & Spinks, 1950) have commented favourably upon the therapeutic effect of 4 : 4 diaminodiphenylsulphone (DDS) in rat leprosy and leprosy in man. The use of sulphone as a therapeutic agent in Johne's disease, which in many ways is similar to these conditions, might therefore be worthy of experimental trial.

Discussion

Of the four so-called major diseases of cattle in this country, tuberculosis is one the eradication of which is but a matter of time and money, while contagious abortion and streptococcal mastitis no longer provide a major problem to agriculture and to the veterinary surgeon. As a result of prolonged research these three diseases may all be diagnosed with comparative ease and certainty and effective remedial measures in one form or another applied.

The control of Johne's disease presents an entirely different problem. Here we are dealing with an organism which apparently is not only capable of living more or less as a commensal in the animal body for long periods, but may also be well able so to conceal its presence that it will give no specific reaction to any test that we may apply. Further, in the majority of cases it produces no clinical sign of its presence. Why some infected animals should become clinical cases of the disease is quite unknown. It is well recognised that symptoms often first appear shortly after calving or any other circumstance which puts a strain upon the normal metabolism of the animal and it has also been suggested that dietetic deficiencies in one form or another may be responsible. In this connection it must be remembered, however, that Johne's disease is an infectious disease and that there are many such, caused by specific agents—either of apparently low virulence or of the nature of commensals—all of which require some external stimulus or "trigger mechanism" to set them to work to cause clinical signs of disease.

As to the incidence of the clinical disease among the cattle of this country, there is no accurate information. Twort and Ingram (1913) believed it to be "prevalent all over England," an observation more recently confirmed by Doyle and Spears (1951). Admittedly a reasonably accurate knowledge of the incidence is not easily acquired; many owners of stock do not advertise its presence and in numerous instances the veterinary surgeon is not consulted; the farmer knows the disease to be incurable in the present state of our knowledge and disposes of the animal in one way or another. The fact remains that a knowledge of the relative importance of the disease in the country to-day would be of value in determining the effort that may be required in order to control it.

As a problem for serious research the study of Johne's disease is unproductive of quick results and the technical difficulties involved are very great. Considerable work is yet required upon the improvement of laboratory techniques, diagnosis by allergic or serological methods, the efficiency of vaccination and upon treatment of the infection by therapeutic measures if we are not to remain remarkably helpless either to diagnose or control Johne's disease.

Summary

It is now known that a considerable percentage of what can be regarded as healthy cattle may in fact be infected with *Mycobacterium johnei*, but it is extremely unlikely that more than a small proportion of these ever become clinical cases of the disease. Diagnosis of the pre-clinical case is extremely difficult if not impossible in the majority of animals as there is no specific allergic or serological test which is now regarded as reliable.

Improvements in the technique of the isolation of *M. johnei* in culture have shown that the organism regularly may be recovered *post-mortem* from clinical cases, not only from the intestine and its associated glands but also from a number of other tissues where it probably exists as a commensal.

In sheep at least two types of Johne's disease are known to exist in Great Britain, one caused by the classical bovine organism and another caused by an organism formerly regarded as uncultivable but now known to be a pigmented variant of *M. johnei*.

Control of Johne's disease, in the absence of a specific diagnostic method, must be based on the prevention of infection of young stock; a great deal of experimental work is yet required on the possibilities of control by vaccination and therapy.

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Discussion

The discussion was opened by Mr. H. T. Matthews, B.V.Sc., F.R.C.V.S., D.V.H., Superintending Veterinary Officer, Animal Health Division, Ministry of Agriculture, in the following terms: It is difficult to get into a short paper all one would say on the subject of Johne's disease, and on a first reading one would think that Dr. Taylor had left out a great deal which is of interest; but on a second and third reading one finds that he has very successfully covered a great deal of what we know and has also managed to comment on an enormous amount of what we do not know about the disease. It is my intention only to underline, and perhaps elaborate a little, some of the things in the actual paper although I feel very strongly the urge to throw the paper on one side and discuss the subject. I congratulate Dr. Taylor on having been so successful within the limits set for him.

Dr. Taylor says that the organism is not pathogenic, which is a very important attitude. He does not stay in his laboratory but gets out and sees a good deal in the field so that we have to listen very seriously when he says that Johne's is not pathogenic. One does not know exactly what he means by "pathogenic" but perhaps he will elaborate it in his reply. It has shaken me and will shake many others here, but it is an important view and one which is well worth considering even if it is not found acceptable.

Early in his paper Dr. Taylor calls attention to the distinction which must be drawn between Johne's disease and infection with the organism. It is a point of major importance but one upon which it is not easy to accumulate evidence over sufficiently long periods to provide a very clear picture. The opinion has gained ground during recent years that far more cattle harbour the organism than can be expected to break down clinically, that the infection figure is much higher than is represented by recognisable clinical cases. Accepting this view, we might profitably consider the uses of the diagnostic test for which search has been going on for so many years and of which Dr. Taylor gives so good a summary. Shall we know what to do with the positives if and when a satisfactory test is devised?

It may be argued that a parallel situation exists with tuberculosis, that many infected cattle remain apparently healthy for long periods. But there are at least three fundamental differences. I admit to some guessing with the first which is that the probability of eventual clinical breakdown is greater with tuberculosis; that the animal will become unprofitable sooner. The other two are not so readily dismissed. Considerations of human health operate to force us to drastic action with tuberculosis; not so with Johne's infection. Thirdly there is no doubt that the tuberculous animal spreads infection freely to the whole herd in contact. We do not know that to be the case with Johne's infection or even with clinical Johne's disease. So it is salutary to consider the differences between these two acid-fasts as much as their similarities.

On the first of the three which I have mentioned, the probability of infection developing into disease, Dr. Taylor has himself published some facts elsewhere. I hope he will think the subject sufficiently important to amplify, in his reply to this discussion, the brief reference contained in his present paper. When one becomes aware that a particular animal is infected, the almost automatic action is to isolate pending rapid disposal. If a diagnostic test capable of routine application should be granted to us, it is highly probable that owners and their veterinary advisers will get some shocks. Admittedly we have become familiar with similar situations after using tuberculin and have learned that it generally pays to be ruthless, anticipating a succession of clinical breakdowns in a fairly near future. One cannot forecast the clinical fate of a Johne's infection so confidently, provided the animal is not subjected to environmental change. If one advises that change of location, feeding and management, it is quite likely to precipitate the breakdown. Many observers have noted that movement from one farm to another contains, somewhere in it, the trigger mechanism which has been recognised so long but not identified; so the chances of an infected animal continuing to be profitable, perhaps for years, are enhanced if there is no such movement and change.

On the second difference, one need only say that the financial inducement to eliminate tuberculosis has derived almost entirely, in this and other countries, from the need to protect human beings. It is debatable whether this weighting of the stimulus was sound, and some change of view is evident in Britain, but there is no denying the fact that the contribution to agricultural economy takes second place as a political incentive. Neither we nor the agricultural economists are yet in a position to produce figures relating to Johne's disease which would cause any stir in the Treasury. I share the impression with some others that there will soon be no other infectious disease of cattle to rival it in this country, but impressions are not enough.

The third difference rests on two things. Tuberculosis can and does produce lesions in nearly every kind of organ and tissue. I doubt whether Dr. Taylor's most interesting recovery of the Johne's organism from several sites changes the belief that the actual lesion is virtually limited to the gut and dissemination restricted to that channel. The portal of entry also seems to be limited in the sense that it has not proved possible to infect by the subcutaneous route. But, more important, animals over five or six months old resist heavy doses given experimentally by mouth. If this obtains in nature, cattle are not susceptible after their first few months of life, so, if adults do not infect adults, the consequences of a positive diagnostic test are not so clearly evident. I should not wish to give the impression that the search for a diagnostic test is useless. On the contrary, it is very much needed to give an assessment of the size and distribution of the disease problem, of relative incidences in age groups and other indications which may shed some light on a subject which is still clouded in obscurity. But, whatever its nature and reliability, its use in the field will not parallel the tuberculin test in presenting us with a clear directive towards control or eradication.

To Dr. Taylor's valuable review of the search for a diagnostic test, I am authorised to add one item. Mr. Norman Hole, at Weybridge, has made some progress in his study of a conglutination phenomenon. He is not prepared to say more than that results up to date are promising and approach the stage where publication is indicated.

Avian tuberculin, used intradermally, seems to be the best of the allergic tests. My own view, based largely on a study of all the test records of 73 cattle which developed the clinical disease, is that it is far too erratic to provide a useful index either of the presence or the absence of infection. Smythe has observed the fading sensitivity which precedes clinical breakdown and suggested that frequent testing with avian tuberculin can be employed to predict that event. On the evidence so far presented I am not impressed that it can be translated into practice with any assurance of accuracy but I hope to hear more about it.

Vaccination of young calves with the French vaccine produced at Weybridge is now in its sixth year as a field experiment conducted by the Agricultural Research Council. About 80 infected farms with 7,000 cattle are under observation. It was anticipated that results of the experiment would be judged on the one criterion of clinical breakdown and that it would take about 10 years before the effect of the vaccine could be fairly assessed. The 1946-7 calves are now well into the age group which yields most clinical cases but it is too early to quote figures, which would be misleading without long explanations. I am permitted to say that losses have continued in the unvaccinated stock at a high level and have, so far, been remarkably few among the vaccinates. The indications are therefore promising.

As Dr. Taylor points out, interference with the tuberculin test is quite a serious drawback to vaccination. If it were not for this there would be more advocates of the French practice of vaccinating all the stock, of all ages, on an infected farm, and eliminating those which fail to respond by producing a good vaccine nodule, thus using the vaccine as a test agent as well as a protective.

Recognition of Johne's infection and disease in sheep must complicate any plan for control in cattle using the same land. A disturbing feature is the finding of a pigmented variant. I would ask Dr. Taylor what progress has been made in studying its behaviour in the animal, particularly whether there is any substantial difference in its clinical effects. In 1946 Michael reported his observations on the disease in North Wales sheep, where cobalt deficiency was a complicating factor, and he noted the "bile-stained" intestine. Is the pigmented variant still only known in Scotland and in sheep? Kent has quite a heavy sheep population, about 500,000, some in fruit districts and a lot under quite different conditions on the marshes. I do not know of the Johne's organism causing any losses among sheep there, although it is prevalent among cattle.

In 1942 a brief survey was made of the distributional incidence of Johne's disease among cattle in the four South-Eastern counties. Of 1,355 herds, 137 admitted to having clinical cases within the preceding 12 months. A natural reluctance of owners to confess probably means that this 10 per cent. of herds, or 0·32 per cent. of cattle, was an understatement for that period. Yet, when we wanted clinical cases for study some three years later, they were difficult to find. It is my impression that, now, the disease is becoming more common again. I say disease deliberately in contrast to infection.

In speculating upon the causes of such apparent fluctuations there are three factors which one would consider important, all occasioned by the outbreak of war. There was a stimulated increase in the dairy cattle population, contrasting with a marked drop in other farm stock; there was a cessation of imported feeding-stuffs; and there was an enhanced price for beef which encouraged farmers to slaughter at the first suspicion of an animal going wrong. But these are still operative. I relate this to illustrate how much we need precise data to establish the fact and extent of fluctuation, whether in the country or the single herd, before we can profitably spend time guessing about causes. One can only echo Dr. Taylor's rather gloomy view of the prospects of controlling the disease upon a grand scale until we know a lot more about it.

There remains, however, the more immediate problem of attempting control at the single herd level. Perhaps the soundest piece of advice one can offer to the owner of an infected herd is to persuade him that, for the first six months of life, a calf's worst friend is its mother. And this means, emphatically, from the moment of birth. Let it have colostrum, of course, but from a bucket, with no sentimental visits between mother and child. Resistance to infection grows faster than the teeth, so give it a chance before subjecting it to the hazard of herd-life. Assuming, for which there is at least some factual evidence, that cow does not infect cow, the many other practices which have been advocated fall into the category of general farm hygiene, not directed specifically against Johne's disease.

Prevention of infection and prevention of clinical breakdown are quite separate things. An owner may be content to have an infected herd, provided there is no breakdown. Actually I think that there are many owners in that position without knowing it. The weakness of this situation may only be revealed when stock are sold off the farm, exposing them to the operation of one of the mysterious trigger mechanisms. It is, I think, a fair assumption that the principal defence against breakdown lies somewhere in nutrition, but no one knows whether that means the general nutritional plane or one small factor such as a trace element or a vitamin; so it seems to be a good rule to advocate that cattle, of all ages, get enough and a variety of food.

Dr. Taylor has given us an excellent picture of future possibilities, diagnostic tests, vaccination, drug therapy. I would invite his comments on this view of what we should do in the hard present.

General Discussion

The Chairman: May I reply to the question Mr. Matthews has asked me regarding the occurrence of Johne's disease in sheep in Kent. On one occasion I found the disease in a Kent ewe from a flock near Wye. It was a sporadic case and so far as I know no more cases ever occurred.

Mr. J. N. Ritchie (Deputy Chief Veterinary Officer, Edinburgh): I intend to resist the urge to speak diffusely on this subject and to confine myself to one matter which I think is quite important. Dr. Taylor makes reference to some work which has been done in Edinburgh by Professor Robertson and myself on the relationship of the tuberculin test to the vaccinated animal. What we endeavoured to do was to see whether it was possible to disclose as a result of the comparative tuberculin test that an animal had become infected with bovine tuberculosis subsequent to vaccination. In order to do that a small experiment was set up with five groups of calves, all of which were purchased from attested herds and all of which were tested shortly after they arrived at the farm connected with the veterinary school. All those animals passed the test in the sense that they did not react to either tuberculin.

One group was maintained as a control and throughout the eight months of the experiment none of the animals reacted to either tuberculin. The second (vaccinated control group) was vaccinated against Johne's disease and gave variable tuberculin reactions; the general picture was that the animals reacted to both tuberculins and the avian tuberculin gave the greater response in practically all cases. The third (infected control group) was infected with bovine type tuberculosis by instillation into the eye. Five drops were used for each eye and each drop of material contained 0·05 mg. of organisms suspended in buffered saline. The animals gave strong mammalian reactions throughout the whole course of the experiment and the reactions generally were such that the animals would have been removed from any herd as animals infected with bovine tuberculosis.

Of the two test groups one was first vaccinated and two months later infected with bovine tuberculosis as in the infected control group. It was impossible by the test to distinguish the animals in this group from those in the vaccinated control group. Generally there was response to both tuberculins, and while the avian tuberculin did not give such a markedly greater response as in the vaccinated control group, the difference between the two groups was not sufficiently marked to make a distinction. The second test group was first infected with bovine tuberculosis and two months later vaccinated. In this group the picture was very similar to that in the first test group, but the test did give an indication in some of the animals that bovine infection existed.

Using the single intradermal comparative test it would appear to me to be extremely difficult, if this experiment can be relied upon, to distinguish infection with bovine tuberculosis acquired subsequent to vaccination against Johne's disease. It would not be so difficult to distinguish bovine infection if the animal had become infected before vaccination. I would suggest, however, that there is no excuse for finding this latter class of animal in the field.

Mr. S. L. Hignett (Frant): I would like to pay tribute to Dr. Taylor for his masterly contribution and to our local Superintending Inspector, Mr. Matthews, for his opening of the discussion. As many of you are aware, we have for some time been collecting thyroid glands from cattle of all ages with a known history to study the histology in an effort to correlate thyroid dysfunction with impaired reproductive efficiency.

During the course of this work we have got the impression (and I do not want to put it any higher) that frequently where there is a troublesome Johne's disease problem in a herd there is quite a high incidence of thyroid dysfunction also. We are not telling you that this shows that thyroid dysfunction renders an animal particularly susceptible to clinical Johne's disease. It may well be that the clinical Johne's disease and the thyroid dysfunction arise from some common factor which throws a strain on the normal metabolism of the animal to which Dr. Taylor has referred. I should add that Dr. Gordon, of Compton, and Dr. Taylor have given us an enormous amount of help in collecting suitable material.

Another point of interest, particularly in view of the earlier observations of Stewart, MacCallum and Taylor, is that in these herds with a fairly high incidence of thyroid dysfunction one tends to get a lot of hypomagnesaemia when this condition is prevalent.

With regard to the treatment of the disease, we collected a number of infected and clinically affected animals which we kept in isolation and we treated them with large doses of sulphetrone, as much as 60 grammes a day given intramuscularly and by mouth, and all we can say is that in a few cases there was some temporary improvement in the clinical condition but in no instance, even after weeks of dosage, were we able to effect a permanent cure.

Finally, I have reason to believe that the type of Johne's disease in sheep due to pigmented organisms which so far has been regarded as peculiar to Scotland, does in fact occur in a small area in the West Riding of Yorkshire

Mr. A. J. Wright (Macclesfield): Firstly, I would like to congratulate both Dr. Taylor and Mr. Matthews upon the paper and the opening of the discussion respectively. I stand here as a

practitioner and I do not pretend to deal with this from a scientific point of view but what I do say is based on personal observation. I agree with Dr. Taylor in his remarks that Johne's disease is probably not so pathogenic as many think or not so seriously pathogenic. Several years ago in our area when our dairy herds were almost entirely flying herds, clinical Johne's disease was rampant. However, a large percentage of our cattle which were slaughtered for human consumption showing no clinical evidence of this disease were found on *post-mortem* examination to be affected with Johne's disease in the upper portions of the small bowel, this condition being confirmed in many cases by microscopic examination.

I am of the opinion that in those days almost 70 per cent. of our cattle were affected with this disease.

This state of affairs definitely did improve with improved husbandry, particularly, as you know, with the elimination of the stagnant water in pits or ponds so common in that area in those days. One rather striking fact was that although there were a very great number of imported Irish cattle I cannot remember ever seeing a case of Johne's disease in adult Irish cattle although the calves from these animals in time often became heavily infected and developed into clinical cases.

Mr. Matthews asked whether we can find the trigger mechanism which makes this disease pathogenic and clinical. I often wonder whether any work has been done to try to find out why Irish cattle are not infected while British cattle suffer from the infection. Dr. Lamont tells me that only recently have there been cases in Northern Ireland but in every case it has been in cattle imported from this country. It was well known in our area years ago that one of the factors which seemed to prevent the appearance of clinical symptoms in these herds which we knew were so heavily infected was a heavy intake of iodised mineral salt. This seemed to be a factor which, combined with better husbandry, helped to control it.

Another thing that we notice nowadays, and I believe some insurance companies are becoming rather alarmed about it, is that there appears to be a breed incidence. Whether that is a scientific fact or not I do not know, but it seems that Channel Island breeds are more subject and predisposed to this disease. I feel that the key to the whole thing is, as Mr. Matthews said, to find out what this trigger mechanism is, whether it is environmental or dietetic. He said that movement of cattle seemed to play some part and our general impression in the North-West, where there were so many flying herds, is that now with the present-day trend and change over to the self-contained herd, coupled with better husbandry, the incidence of clinical Johne's disease is definitely decreasing.

Mr. H. F. Hebeler (Langport): Speaking as another practitioner, one's remarks can only be made from the rather disjointed and befogged view of the agricultural practitioner who sees so much of the clinical symptoms of Johne's disease.

I have a few questions to put to Dr. Taylor and I will relate one experience we had in my practice with an Ayrshire herd. This herd had a very high incidence of clinical Johne's in which it was relatively easy to recover bacilli from the faeces. The owner was a man who eventually got tired of being told to dispose of infected animals and was quite prepared to try anything. Without expecting very much result we tried various things, but the interesting part of the experience was that I had heard of the use of cobalt associated with Johne's disease in sheep. We therefore used a mineral supplement with a very high cobalt content in very large doses, amounting to between 2 oz. and 4 oz. per day, depending upon the age of the cattle concerned.

We found that in a number of these clinical cases it was possible to remove the bacilli from the faeces on microscopical examination by the use of cobalt, but in every case where we were able to do so we eventually had a further breakdown which occurred at the time of parturition. In three cases breakdown occurred with normal parturition; in one case a severe breakdown occurred within a short time of an abortion; it was a very small clinical experiment and only seven animals were concerned. We were unable to carry on the experiment because the farm was sold.

One point which puzzles me is that if infection occurs only in the young animal up to the age of six months, as we have been told, how is it that the well-tried method of control of the closing up of farm ponds seems to succeed so well? We have been told that infection rarely or never occurs in the adult. I cannot quite follow the reasoning there.

I would add one point with regard to the Ayrshire herd. I have never succeeded in finding the earliest age at which clinical signs appear. We had a five-month-old heifer showing signs of severe diarrhoea and we recovered acid-fast bacilli morphologically similar to *M. johnei*. I would confirm Mr. Wright's remarks about the apparent increase in the number of cases of the disease seen in Channel Island cattle, particularly Guernseys, and I wonder if Dr. Taylor can say anything about the situation which one finds to an increasing degree if one has a Guernsey herd which is well known to have a high incidence of clinical Johne's but in which it is becoming progressively more difficult to recover bacilli from a sample of faeces. The situation is that one knows from the clinical signs, the history and elimination diagnosis that the animal must be scouring from Johne infection, but it is frequently impossible to recover any bacilli at all until the animal is practically dead.

Dr. A. W. Stableforth (Weybridge): We have had a stimulating paper and a stimulating opening this morning. On the one hand we have Dr. Wilson Taylor's figures obtained in slaughterhouses from perfectly normal animals that 15 per cent. showed infection. On the other hand, though many of us know herds in which losses are very great indeed, we have no reason to think that the average clinical loss is anything approaching 15 per cent. In fact, it is probably more of the order of 2 per cent. to 3 per cent. At the present time, Dr. Withers working from Weybridge is trying to get some idea of the incidence of various diseases from collection of data for sickness, death and disposal in random samples in two counties. It is early to talk, but from this sample the losses from clinical Johne's disease, *i.e.*, animals sent away or which die, are of the order of 1 per cent. or 2 per cent. We have only one year's figures to go on but they are from some 3,000 cows.

This apparent difference in incidence of infection and of clinical disease brings forward the point that there must be other important factors which decide whether the animal gets Johne's disease in a clinical form or not. We do not however know which factor, and it is difficult and costly to carry out appropriate experiments.

Dr. Wilson Taylor suggests that this organism is of very low pathogenicity, and that in fact it might be regarded as non-pathogenic. Whilst that is an interesting point of view to put forward, it is, I feel, rather dangerous to allow ourselves to be carried too far. If we were sure that we could prevent 90 per cent. or 95 per cent. of all clinical Johne's disease by attention to nutritional or environmental factors we might be justified in considering that as a main way of dealing with the disease; but we have, at the moment, very little evidence. Whilst therefore the clinical viewpoint is important, we must also look to the future and consider and continue to consider more radical measures.

At the moment, as has been said this morning by several speakers, although various serological methods of diagnosis are being studied none is yet satisfactory, and we are not within sight of one on which we can rely. If we had such a method, I submit we would be in a position to take further measures, and the fact that 15 per cent. of animals might have the disease should not deter us.

With regard to exports, it is noticeable that at least three countries have become concerned about the importation of Johne's disease from this country. That is a point to be taken note of. If we should get a reputation for exporting Johne's disease it would do our exports much harm. Some countries already insist on certain tests being carried out; or that the practitioner should give a certificate that the animal does not come from a herd infected with Johne's disease. That is very important but a very heavy responsibility for the practitioner.

Finally, may I recall to your mind some work which Minett did in India in which he tried to set up a herd infection with Johne's disease and after five or six years had to give it up because the disorder died out.

At the moment our efforts must be to prevent infection by protecting the animal during the first six months of life—the evidence is that most animals do become infected in early life—and to hinder its development into clinical disease by good nutrition and environment.

Mr. H. M. Wilson (Cupar, Fife): Johne's disease is becoming apparently a major problem which seems to be not only the view of practitioners but also of a comparatively large section of the farming community. I practise in an area which is regarded as a well-farmed area and we find very definitely that there is a marked increase in the incidence of Johne's disease.

I was interested to hear the last speaker raise the point that some other countries are insisting on veterinary certificates to the effect that Johne's disease does not exist in certain flocks. Does that not rather tend to substantiate what we have been saying when other countries are putting this country under suspicion in respect of that disease? There are other factors which appear important to the clinician and which markedly increase his difficulties in dealing with this problem, either with individual animals or as a herd problem. He has difficulty in obtaining *ante-mortem* confirmation of his diagnosis. Where he finds from a laboratory report that there is no evidence of Johne's disease and there are no parasites and where no other factor is involved, I think he is reasonably correct in assuming that the case is one of Johne's disease.

One is most interested in the Ministry's vaccination scheme and I do hope that Dr. Taylor and those who collaborate as a team in the research work in respect of this disease will bring to a satisfactory conclusion the results of their work.

Mr. P. S. Hastie (Ashford): I feel I would like to say a few words about the position of Johne's disease in my area. I have tried to think whether we have come across Johne's disease in cattle on the Romney Marsh and I cannot remember confirming a case there. Dr. McEwen will probably give you better information about that, but there is an interesting point arising from it. At a South-Eastern discussion on liver fluke Mr. Paterson claimed that he had never diagnosed liver fluke on the Romney Marsh and we thought it might be due to the exceedingly good draining in the region. On farms on the downland where there is liver fluke we often found coincidental infection with Johne's disease. Whether there is anything in the basic husbandry or soil conditions which predisposes to Johne's disease as well as the intermediate host of liver fluke I cannot say.

Another point which permits Johne's disease to become rather a problem in our district is the green sand soil, where we do not necessarily find cases of hypomagnesaemia, but we have two or three farms showing a low magnesaemia soil condition and a fairly high incidence of Johne's disease. Just what the trigger mechanism is in that case I am not in a position to say: 15 per cent. of findings of the bacilli at *post-mortem* examination makes me wonder just what decides whether an animal, exposed to infection as a calf, should swallow the organism and pass it out through its bowel without invasion resulting in colonisation in the alimentary tissue or not. It seems that if it were a non-pathogenic organism which flared up there would be a great deal higher incidence of actual non-pathogenic finding of this organism in the bowel at autopsy—or is there some natural immunity which a young animal gets which prevents the disease flaring up or getting a hold?

There is a herd of Angus cattle in Kent going to Ireland. We were warned that Eire was free from Johne's disease and if we allowed infected cattle to go through there was no hope for us. We carried out johnin tests repeatedly and only those animals which had shown a negative reaction and which gave negative faecal examination results were allowed to go through, but unfortunately the herd has had two cases of Johne's disease since they went there. Although the Ministry advises the breaking up of family life in dairy herds I am not too sure whether that will be effective. This Guernsey herd on green sand soil was advised to isolate calves at birth; they did this fairly well: as soon as the calf was dropped it was taken out of the calving box. This seemed to give results for a while and then a year ago and again this year two heifers each year which had been reared in this Johne-free incubator went down very rapidly halfway through pregnancy with really acute Johne's disease. They were all right one week and the next week they were skin and bone. Faecal examination was consistently negative but scrapings from the bowel, taken *post-mortem*, revealed the organism quite clearly.

Mr. J. M. Ingram (Oxted): I would like to confirm Mr. Hignett's findings with regard to his suggestion that hypothyroidism could exist and influence the incidence of Johne's disease. I have to deal with several herds very heavily infected with Johne's disease, in the majority of which hypothyroidism is definitely established. The experience I have gained in dealing with four or five herds in which Johne's vaccination is carried out in early calfhood leaves little doubt in my mind that the vaccination is of great help in the control of the disease. This Johne's vaccine should be injected within the first 14 days after birth, but in some herds at the commencement of vaccination we were allowed to do calves up to six months of age without their being accepted into the Control Scheme. It was found that animals vaccinated later than the approved period did not become protected and at a later stage in life became infected with the disease. This rather proves the point that if the vaccine is going to be used it should be used early and it may also help to establish that a natural infection may be picked up in the first few weeks of life.

There is one point I feel I must mention about Johne's disease and that is that it can occur without clinical symptoms of diarrhoea. There was one case in particular where a cow became thinner and thinner. The animal was tuberculin tested, proved negative, and parasitism was also negatived. It was then thought that the animal might have actinobacillosis of the rumen but she failed to respond to treatment. I am afraid no exact diagnosis was made during life, but on slaughter typical lesions of Johne's disease were found in the bowel and confirmed by microscopical examination.

There must be some cross immunity between tuberculosis and Johne's disease. The incidence of the latter disease has definitely increased remarkably with the increase in the number of attested herds. A peculiar fact is that the average dealer will never hesitate to buy a cow with Johne's disease for slaughter because he believes there will not be any lesions of tuberculosis in that type of cow.

On the diagnosis of Johne's disease in cattle, this is far from easy. I have clients who can pick an infected cow out long before it could be diagnosed clinically. These men are expert stockmen and know their animals backwards. They usually base their opinion on some change of the coat, a lower milk yield than previously yielded and the feel of the skin.

I am rather perplexed by Mr. Ritchie's experiments; did he slaughter the calves and what lesions of tuberculosis were present? With regard to the comparative tuberculin test, it is known that animals vaccinated with Johne's vaccine react to that test, the reaction to the avian tuberculin being the more positive and with more oedema, of that characteristic doughy feel, while the reaction to the mammalian tuberculin is firm. Is it not possible that the induction of tuberculosis in these control animals would cause reverse findings to the comparative tuberculin test?

Dr. de Vries (Holland): I am very interested in this paper. In Holland we speak of para-tuberculosis, not so much of Johne's disease. About five years ago I carried out some experiments in cattle in infected herds. We could trace Johne's disease in our country because in the slaughterhouses we recorded where it was found and we could distinguish the districts where it was found. Although there is a big trade in cattle in our country we see to it that Johne's disease is confined to those districts and although the cattle are sent from one district to another the disease remains only in the areas where we found it 5 to 10 years ago. We are convinced that there is a connection between the soil and the disease.

The second point is that I had some experience in inoculation and in my country we think that it is not so good to vaccinate against Johne's disease, as infection with tuberculosis can be masked thereby. We had some sad experiences. I had a herd which was free from tuberculosis for years in a district in which Johne's disease occurs. One day the farmer bought a cow with Johne's disease and after two or three years the herd was infected. We started to vaccinate the new-born calves every year, the sheep were inoculated. One day it was discovered that one cow had tuberculous mastitis; it was necessary to remove the herd and the results of the inoculation were tragic. There is no doubt that by inoculating a herd against Johne's disease it is possible to infect it with tuberculosis and this creates great difficulty.

In our country we think this is an important disease and we have about 150 herds under control. Once or twice a year the animals are tested with johnin. If a herd is very heavily infected the best advice we can give is to remove all the infected cattle from the herd and buy new ones. If the infection is not heavy and if one is lucky, the disease might be eliminated from the herd.

Dr. W. S. Gordon (Compton): I would like to say I think that Dr. Taylor has been over modest about his own valuable work when he suggests that no advance in our knowledge of Johne's disease has been made since it was last discussed by this Association. He himself, by persistent and painstaking endeavour, has made the important contribution that in apparently healthy animals collected from a wide area there is at least a 15 per cent. incidence of infection with *M. johnei*. In other words, the infective agent has a wide distribution geographically and can be harboured in at least the ileo-caecal lymph node of cattle which show no clinical symptoms of Johne's disease. This is important new knowledge.

We have often discussed the various causes of non-specific sensitivity to mammalian tuberculin, and while we always felt that infection with Johne's disease was one of the causes, it seems probable now, in the light of Dr. Taylor's work, that it is an important if not the most important cause of non-specific sensitivity in the "no lesion reactor." Further work on this point is important.

Prior to export of animals official policy may require that veterinary surgeons be asked to give a certificate that Johne's disease does not exist on the farm. Presumably this opinion would have to be based on the absence of clinical cases of Johne's disease: at least I doubt if Dr. Taylor, after his experience, would be prepared to give a certificate on visual examination alone that any bovine was free from infection with Johne's disease. Thus we have the interesting situation that, on the one hand, Dr. Taylor has shown that an animal may live its full life producing milk or beef and yet may harbour *M. johnei* in its ileo-caecal lymph node, while on the other hand Mr. Matthews, who opened the discussion, has laid strong emphasis on the "trigger mechanism" in precipitating clinical cases of the disease. Could there be a much better mech-

anism for activating a latent infection than the export of an animal with all the adverse environmental factors that accompany such a move?

While Dr. Taylor said that *M. johnei* was not a pathogen, I think he did so with his tongue in his cheek in order to emphasise that the disease was not progressive in all infected animals. The way I myself view it is that at one end of the scale we have bovine tuberculosis caused by an acid-fast organism which we believe produces a progressive disease in most cases. At the other end of the scale we have the example of cattle infected by the avian type of tubercle bacillus with a small lesion in some cases but certainly a retrogressive disease which does not reduce the usefulness of the animal. Somewhere between these two extremes is the infection of cattle with the acid-fast organism *M. johnei*. It is an organism which may infect an animal and which may be found in the ileo-caecal lymph node without causing any apparent abnormality. There are, however, some cases of infection with this organism in which the disease progresses to the clinical condition which we recognise as Johne's disease, and we would all like to know what activates the organism to do this.

Another point to which I would like to make brief reference is to question the advisability of removing the calf from its dam for the purpose of reducing the risk of infection with Johne's disease. If we compare the incidence of Johne's disease in the two groups of cattle, those that are beef producers—a large proportion of which suckle their calves, and dairy cattle—a small proportion of which suckle their calves, do we see much difference in the incidence of the disease in the two groups? In my experience the incidence seems to be higher in dairy cattle, but that is purely an impression, I have no authentic figures.

A further point is the question of the spread of infection. At the moment we assume, and there is considerable evidence to support this view, that infection takes place in calfhood and the infected female develops clinical Johne's disease about two years later. It is important that this point should be cleared up and that further attempts shou'd be made to determine if adult cattle can be infected.

Mr. D. K. Hunt (Lymington): Following on the remarks made by Dr. Gordon, in the last few days I have had to fall back upon the johnin test. I tested eight cows which had had a history of scouring. The owner adopted a prolonged course of penicillin on one cow. I have not tried it until now when one cow is dying of Johne's disease. The last time I saw her she looked a typical clinical case. The cow scoured when she was fairly heavily in calf, she broke down on calving, again two months later at the height of lactation, and she has now broken down for the fourth time pretty seriously. We did this test and I conducted a comparative tuberculin test at the same time to see what sort of swellings we should get and the results were of some interest because in each case I got reactions to johnin. In practically every case the avian reinforced the johnin. Six out of the eight I should class as reacting to johnin, the other two did show increased measurements to johnin but also to mammalian tuberculin. In these latter there were lesions of skin tuberculosis, and I do not think they are cases of Johne's disease. One of these two is very small and poor because she got in calf at 15 months and had a bad time, but in spite of the fact that she was passing literally water she was still giving a lot of milk although she has been calved for a long time. Perhaps a point of differential diagnosis. I think it was just a question of bad management, because she has apparently recovered remarkably. I was well satisfied with the results obtained by this test in this instance. The results were very similar to those obtained by the conglutination test. With regard to age infection, I do think there is a discrepancy between the laboratory idea that they pick it up as calves or later in life because of the success of fencing off stagnant ponds in preventing further cases. Dr. Taylor has said that saprophytic organisms aid the growth of Johne's disease. It may be that the saprophytic organisms in the ponds provide the "trigger mechanism" in such instances.

Mr. E. P. Barrett (Guildford): I know a Guernsey herd which was vaccinated against Johne's disease some five or six years ago under a different owner and by a different veterinary surgeon. The vaccinations ceased four years ago when the new owner took over and when there was a great improvement in nutrition level, husbandry and general management. The incidence of Johne's disease in the herd when vaccination was instituted was very high indeed, they lost nine clinical cases in five months. Since cessation of vaccination and the institution of improved management there has been only one case in four years.

The point of practical interest is that there are a number of vaccinated cattle in the herd with comparatively large lesions at the site of vaccination. One animal had a lesion 1 foot long, and 3 inches or 4 inches in diameter, which was so disfiguring as to require surgical removal. All the vaccinated animals have got some sort of lumps in the brisket and I understand that breeders are very shy of buying such animals because they come presumably from Johne-infected herds.

We realise that the infection is so widespread that it is unreasonable that somebody who has taken the trouble to vaccinate should be so penalised. If vaccination is giving some degree of success and is to be persevered with, one wonders whether some other type of vaccine could not be used which would not produce this easily recognisable blemish. I, also, have observed very marked reactions to both tuberculins in animals which were last vaccinated four years previously.

Dr. H. G. Lamont (Belfast): I thought you might like to hear from a country where Johne's disease is not a problem. Mr. Wright has referred to the fact that Irish cattle are free from this disease but I would like to make a point that during the last two years we have had 28 cases of Johne's disease in Northern Ireland, and 26 of these were in cattle imported into Northern Ireland; this is rather a significant factor and has given us a great deal of worry as to what line of action we should take regarding this disease. We have imported about 900 animals in the last two years and the fact that 26 go down with Johne's disease supports Dr. Stableforth's figures; the two additional cases were calves born of imported cows. The fact that Johne's disease does not occur in Ireland, either north or south, may open a new line of research into this condition. The fact that Dr. Wilson Taylor has been able to recover Johne's bacilli from the lymph glands of apparently normal cattle in 15 per cent. of cases is very significant and it is something which should be followed up in Ireland, both north and south, to see if we can recover the Johne's bacillus. Dr. Wilson Taylor might with profit come to Ireland and study the types and the cattle and see if he can find it there. We often come to Britain to learn things from your laboratories and it is possible that research workers in this country might learn something from Ireland. I see the Chief Veterinary Officers from the Republic and from Northern Ireland are here and I hope they pay great attention to what Dr. Gordon has said. Apparently no veterinary surgeon will be prepared to give a certificate that cattle are free from Johne's disease, and I have repeatedly urged that we should close down on imports until you can guarantee your cattle are free from this disease.

It is an interesting fact that so much of our land goes to crop raising that we have very little permanent grazing. We do have mountain areas where there are only one or two cows to five or more acres. We grow many potatoes and we do a lot of spraying with copper sulphate.

There is one thing I can tell Mr. Hignett about the thyroid gland: the thyroid gland is collected in abattoirs in Northern Ireland and it is reported to be larger than normal in our cattle. I do not know what the significance of this is, it has not been followed up.

I came here this morning to draw attention to the fact that in Ireland we might be able to provide you with some new approach to this disease or some new line of attack.

Dr. Gordon: If we can export Dr. Taylor we shall be happy to collaborate with him in every way we can to try to diagnose Johne's disease or the absence of Johne's disease in Irish cattle.

Mr. J. C. Grant (Aberdeen): For some years we have been carrying out trials on the comparative productivity of different cross breeds of sheep.

One phase of the work has had to be abandoned because of the mortality from Johne's disease in one important group—the offspring of an English tup on native ewes.

This seems to indicate the possibility of differing susceptibility to the disease in breeds in the same environment.

The matter will be reported fully by the person directly involved but I thought the incident pertinent to the discussion here.

Mr. D. W. Kerruish (Isle of Man): Dr. Lamont mentioned 28 cattle out of 900; we have imported 1,500 cattle since 1949 and have had only one confirmed case of Johne's disease amongst these animals. This may be due to other factors; almost all our farms are ley farms and cattle have been kept under those conditions for many years. We should be very glad if Dr. Taylor would emigrate to the Isle of Man and investigate some of our conditions.

Mr. A. S. Harris (Barnard Castle): I believe it was Mr. Ingram of Oxted who mentioned the incidence of the disease in attested herds. We are very self-contained in our area and during the

past six years the attested herd scheme has assumed very large proportions. During the last three years the increase of Johne's disease has become rather alarming. I do not know if that has any significance, I just put it to the meeting.

The Reply

Dr. Wilson Taylor (in reply): I have been greatly flattered by the interest shown in the paper; a number of different points have been raised during the course of this discussion, but in view of the few minutes left to us I cannot possibly reply to them all.

I was extremely interested in Dr. deVries's remarks on the use of vaccine and the way in which it had masked infection with tuberculosis, thus confirming in a dramatic manner what Mr. Ritchie has said concerning his experiments on this subject.

Several speakers have raised the question of the age at which animals become infected. and our old friend, the stagnant pond, has come into the picture again. Animals can be infected experimentally, with emphasis on the word "experimentally," up to the age of six months, but whether they can become infected over that age under natural conditions is rather a different matter. I understand, however, from Dr. Stableforth that some experiments are in hand at Weybridge in an endeavour to infect adult cattle.

I was interested to hear from Mr. Hignett that Johne's disease in sheep does occur in Yorkshire; I am convinced that it is present in a number of hill farming areas; it is often merely a question of diagnosis.

Then we have this so-called increase of Johne's disease among attested herds. Formerly there was a great deal of tuberculosis, mastitis and contagious abortion among the cattle of this country and their monetary value was not so high as it is to-day. These three diseases have been removed from a large number of our herds, the value of the cattle has increased enormously, and the farmer is paying more attention to other conditions which may appear in his herd, one of which may be Johne's disease. In other words, it is possible that Johne's disease may have been masked in many cases in the past by these other diseases.

Mr. Ingram was of the opinion that the one disease immunised against the other and there may be some truth in this, but tuberculosis and Johne's disease can definitely exist in the same animal. Mr. Hebeler and Mr. Hastie wondered about the absence of organisms in samples of faeces from certain clinical cases. In a number of these animals at *post-mortem* examination, although the lesions may be advanced the number of organisms present may be very small, consequently organisms in the faeces will be very sparse. The reason for this phenomenon is not known, but may be connected in some way with the immunological response of the animal body. It is well known that in actual clinical cases the number of organisms in the faeces may vary considerably from week to week.

One could discuss Johne's disease for a very long time, but it is increasingly apparent that we do not know enough about this disease fundamentally; we do not really know how or at what age animals become infected, what turns them into clinical cases or even an adequate method of diagnosis, and it is only by a great deal of effort by technically competent workers that we shall get a better understanding of this disease.

DEFENCE PROBLEMS OF BIOLOGICAL WARFARE

In our issue of November 10th we recorded the setting up of an Animal Health Emergency Organisation, one of the functions of which is "to meet the possible threat of biological effect" (of warfare) "on our stock." *The Birmingham Post* now reports that at a recent convention of the American Public Health Association technical papers were read on the problems of defence in biological warfare.

The main conclusions reached were: 1, only known diseases will be used as weapons in biological warfare; 2, infection of animals would be almost as effective as infection of humans if an effort were to be made to bring the nation to its knees through germ attack; 3, the major weakness of known defence techniques is the time lag which results between infestation of the targets and the recognition of the danger by health authorities.

Dr. Leslie Chambers, Director of Research for the Environmental Health Centre of Cincinnati, Ohio, said: "All our activities in peace time may be regarded as a kind of defensive biological warfare. In the event of biological warfare directed against us by an enemy agent, our problems, in principle, would remain the same." The only new factor added to the disease employed would be the substitution of human "wilful control and direction" for the control normally supplied by natural forces in the generation and distribution of plague conditions. As for the defence against deliberate acts of biological warfare, Dr. Chambers explained: "Defence against biological warfare presents no problems which are basically new to the medical and public health professions."

Dr. Frank Todd, a consultant for the veterinary services of the Health and Special Weapons Defence Division of the Federal Civil Defence Administration, gave a warning that biological warfare infection of animals presents a problem as serious as the infection of human beings. "If our animals were left unprotected, an enemy could destroy our livestock sufficiently in a few years to cripple our ability to defend ourselves. The ingenuity of an enemy to create novel ways of introducing and spreading disease to range cattle, farm animals and poultry or to rural or urban populations by using wild animals must not be overlooked."

Dr. Todd listed 80 animal diseases and parasites which animals could transmit to man. "For many of these diseases eradication or control of the infection in animals provides the only really logical and effective means of eliminating human infection," he said.

Both experts emphasised that the greatest problem is developing techniques for speedy identification and isolation of the biological warfare disease so that known preventive measures could be begun.

"Basically," Dr. Todd said, "our defence against biological warfare on animals is a good, sound, effective organisation for communicable disease control." But the basis for any effective control programme is the speedy identification of the disease.

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PRODUCTIVITY IN FARMING

In the autumn of 1948 the Anglo-American Council on Productivity was set up to promote economic well-being by a free exchange of knowledge in the realm of industrial organisation. By this means i twas hoped that methods and techniques throughout all branches of British industry might be improved, thus raising the general level of productivity. The chief means by which such ends were to be achieved was by visits of teams to America where American production methods could be studied, and a comparison made with conditions here.

In June, July and August, 1950, a Farming Productivity team visited the United States, and their report, which can be had from the offices of the Anglo-American Council on Productivity, 21, Tothill Street, London, S.W.1, price 2s. 6d. (post free), has now been issued.

The team have made the following recommendations:—

1. Farmers should pay greater attention to farm planning so as to develop enterprises each of which will afford the greatest scope for the effective use of modern labour-saving machinery and equipment, and which together will provide full and continuous productive employment.

2. Farmers should co-operate freely with one another in ownership and use of farm machinery in the full realisation that the larger the machine which can be justified the greater are the benefits likely to accrue from its use.

3. To facilitate the use of large machinery, farm layouts should be altered or replanned where necessary.

4. Farmers should specifically seek as a corollary to farm mechanisation an increase in the volume of production, or, if that is not possible, a decrease in the volume of labour employed.

5. Farmers should examine carefully their present practices and methods, and all operations that are not found necessary or do not contribute to the sum total of production should be rigidly eliminated.

6. To ensure the integration of the design and development of new machines and equipment with the changing needs of farming, there should be close and systematic collaboration between farmers, manufacturers of and dealers in agricultural machinery.

7. Electrification of farms should be pressed forward by every possible means.

8. In agricultural, education and advisory work greater emphasis should be laid upon th eimportance of management and organisation in farming. Farmers should be made familiar with the principles of farm budgeting and the application to farming of such techniques as "job analysis" and "work simplification."

9. Specific and permanent arrangements should be made to bring to the notice of farmers, agricultural research and advisory workers in this country the results of the vast amount of agricultural research undertaken in the United States.

SURGICAL AND OTHER DEMONSTRATIONS

COLOUR FILMS OF OPERATIVE PROCEDURE

This year's programme of surgical and other demonstrations was planned imaginatively. The operations on cattle performed on the spot, *i.e.*, at the Wellcome Veterinary Research Station, Frant, near Tunbridge Wells, on the Friday afternoon, included a series illustrating various methods of dishorning, and these, it is hoped, helped towards the solution of a problem which is exercising the minds of many practitioners ; also rumenotomy, which was featured again in the excellent series of ciné films in colour depicting some of the surgical activities of Mr. J. McClintock, of Norwich. The introduction of the coloured film, for the first time at our Congresses, not only was outstandingly successful as enabling every onlooker to get an uninterrupted view of delicate manipulative processes, performed under optimum conditions, but provided an object lesson in the high standard of surgical skill attained by the veterinary profession to-day.

The Association also was indebted to the Principal of the Royal Veterinary College for facilitating the exhibition of another series of coloured ciné films illustrating the surgical prowess in the small-animal field of Mr. Gordon C. Knight, of the R.V.C. Beaumont Hospital. The operator paid warm tribute—which was heartily endorsed by the packed house at the Eastbourne Gas Company's Demonstration Theatre at this session on Tuesday afternoon—to the assiduous and brilliant work of his gifted amateur photographer colleague, Mr. E. J. Roberts, M.R.C.V.S., of the Department of Surgery at the College ; in particular, his " close-ups " of naturally coloured internal organs functioning *in situ* will not readily be forgotten. Mr. McClintock's brother-in-law, Mr. —. Montague, of Norwich, also was notably successful as the photographer of his series.

Clearly, colour cinematography as a feature of our congressional demonstrations has come to stay. We deal below in detail with the large- and small-animal programmes presented.

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The Visit to Frant

The visit paid to Frant, on the Friday afternoon, was for many the " high light " of the Congress. Many factors contributed to make it so—the one perfect day of the week after a doubtful start, the beauty of the countryside and, as we had anticipated, masterly organisation which enabled an impressive programme to be carried through to time. What was unexpected, however, was the tremendous influx of viewers, who poured in by car and coach not only from Eastbourne but, so it seemed, from all parts of the south-east. A reliable estimate put the figure at 520—one which, so far as we are aware, has never been approached by any other fixture sponsored by the N.V.M.A., and which makes the official attendance book entry (recorded elsewhere in this issue) look somewhat unrepresentative.

Somehow the elasticity which is a feature of first-class planning, mastered all consequent difficulties. Arrangements immediately were made to have a " second sitting " for the film show and, for the benefit of those who otherwise would have been deprived of the opportunity of witnessing them, practically all the demonstrations were duplicated. Even so, everyone could not be accommodated in the admirably laid-out theatre of operations, and those who had extended the loud-speaker arrangements to the outlying domain were duly rewarded for their foresight and ingenuity. In this connection, all had relished the prospect of hearing Mr. Steele-Bodger in his announced capacity as chairman and commentator. Their disappointment at his lamented absence through illness, however, was soon compensated for by the vivacious competence with which Mr. J. McConnachie Ingram, of Oxted, filled the rôle : his introductory and running commentaries indeed were in the best B.B.C. tradition. In the event, then, films and surgical techniques were seen, or heard, to good advantage by all and, as a final miracle, the refreshments hospitably provided at the close somehow met the needs of the hungry 500+.

It is noteworthy that the whole programme was a display of local talent with the Hignett brothers and Mr. Ingram as the master co-ordinators. Below is described a most memorable afternoon's work and instruction.

Before the assembly dispersed, the PRESIDENT, Mr. Hodgman, voiced the thanks of the " National " to the Wellcome Foundation for placing the Station at its disposal for the occasion and entertaining them so hospitably. The very large assembly which had witnessed the most interesting and instructive programme owed a deep debt of gratitude, also, to Dr. Montgomerie, Mr. S. L. and Mr. P. G. Hignett, and their colleagues for the wonderful show they had put on. (Applause.) If the others had enjoyed it all as much as he had himself, they would know how to show their appreciation.

When the applause had died down, Dr. Montgomerie said how pleased the Foundation were to place those facilities at the disposal of the Association. They were highly complimented by such a tremendous turn out. Mr. S. L. Hignett and Mr. Peter Hignett and the staff had " borne the brunt," and it was to them rightly that thanks were due. He knew the staff would wish him to pay tribute to the great help they had received from those who had been taking part in the demonstrations, also to Mr. Ingram, for their labours on their behalf.

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LARGE-ANIMAL SURGICAL DEMONSTRATIONS*

Dishorning by Various Methods

I.—By N. F. S. BURKE, M.R.C.V.S., Oxted

Method of Blocking the Nerve to the Horn.—A 1½-inch 18 BWG needle is used. The site is just below a point midway between the horn and the external canthus of the eye, close behind the lateral ridge of the frontal bone. The needle is introduced deeply into the fat of the supra-orbital fossa directed towards the back of the orbit ; 5 c.c. of local anaesthetic is injected as the needle is withdrawn. This spreading of the local anaesthetic is desirable as the nerve to the horn core may divide several times before it reaches the horn. It is necessary to allow the anaesthetic 5 to 10 minutes to diffuse through the tissues before removing the horn.

Removal of Horn.—The hair is clipped with scissors from around the base of the horn and a tourniquet is applied in the form of a loop of string about the thickness of binder twine. This is tied around the base of both horns as near to the occiput as possible and drawn tighter by two cross pieces of string applied midway between the horn and the poll.

* Described by the operators.

Mr. S. L. Hignett, Hon. Local Secretary, and Sir Weldon Dalrymple Champneys (above operator's arm) in section of spectators at demonstration of dishorning technique.

The horn is removed by sawing with a piece of embryotome wire about 2 feet long. The cut is in an upwards direction, not straight through the horn but following the shape of the head ; a ring of skin about ¼ inch wide is removed with the horn. The only restraint needed is a man steadying the cow's head.

The operation is best performed with the cows in their own standings. The method is somewhat laborious but the cut is exceedingly clean and with good organisation about 10 cows can be dehorned in one hour.

Sequelae.—About half of the animals operated on show sinusitis with a clear mucous discharge. This in itself is of no importance and no dressing is required. In about 5 per cent. of cases, however, it is followed by a purulent discharge. This is treated by enlarging the opening into the sinus, if necessary, and tilting the animal's head to the side with the nose upward effectively to drain the sinus. The owner is advised to follow this procedure of draining daily.

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II.—By J. G. E. GALLIE, M.R.C.V.S., Canterbury, and W. A. C. SCOTT, M.R.C.V.S., Margate

Chloroform is used in a simple closed mask made of waterproof sailcloth—Army nose bag type—with a draw string round the top ; 3 to 4 oz. chloroform are poured on to a sponge, already placed in the mask, which has been soaked in hot water and gently rung out.

The animal is thus anaesthetised quickly and recovery is rapid.

Horns are removed by means of a tenon saw. Hacksaws were tried out but proved unsuitable, being less easy to handle and the blades apt to snap.

It is very important to remove part of the frontal bone, exposing the frontal sinus. We have taken particular notice of operations not being deep enough with resultant haemorrhage and risk of infection. By exposing the sinus, complete surgical drainage is obtained, there is no sinusitis and no dressing is required.

Freedom from haemorrhage is due to removal below the horn corium which ensures that the cornual artery is severed at a point deep in the muscle before it (the artery) branches into the cornua. During the operation an assistant pulls the ear firmly down the side of the face. On release after removal of the horn sufficient muscle and skin slip back to cover the artery and act as an efficient haemostat.

Of many hundreds dehorned by this method no dressings or haemostats have been required.

The drop in milk yield has been negligible—2 to 3 gallons per herd (not head) for two or three days.

An average of 12 to 16 animals per hour can be done.

The end result is, animals are indistinguishable from poll cattle as the skin quickly grows across the exposed sinus.

The operation is safe, speedy and simple.

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III.—By P. M. F. SAMBROOK, B.Sc., M.R.C.V.S., Ashford

Equipment.—5 c.c. syringe, 1 inch by 1 mm. needle ; 5 per cent. solution planocaine local anaesthetic ; large butchers' saw with a detachable blade ; blade size, 18 inches long with ⅛-inch teeth.

Preparation.—Hair is clipped around base of the horns and over injection site.

Site.—The lateral ridge of the frontal bone running from the base of the horn to the eye, is palpated ; 5 c.c. of 5 per cent. local anaesthetic are injected at a point 1 inch

below the base of the horn, immediately below the line of this ridge, at a depth of ½ inch under the skin. The injection site is then well massaged to disperse the anaesthetic.

Testing Anaesthesia.—Five minutes are allowed for anaesthesia to develop and sensitivity is tested by pricking the skin in several places around the base of the horn with a stout needle. Once developed, anaesthesia persists up to one hour.

Removing Horn.—The horns are cut off with the saw described, the cut being made about ¼ inch inside the horn-skin junction and carried straight across the base of the horn, *i.e.*, about ¼ inch of skin can be seen all round the base of the severed horn. This depth of cut prevents the development of stumps. No attention is paid to haemorrhage, this ceasing spontaneously. At an owner's special request, a tourniquet of binder twine encircling the horns is sometimes used, but this does not allow of a sufficiently deep cut and stumps usually persist.

Secondary haemorrhage seeping through a clot on the cut surface can be dangerous and is treated by removal of the clot to allow free bleeding to recommence, which will then cease by itself.

Time Taken.—Animals are anaesthetised in batches of six and then dehorned. With one operator performing both duties, a fair average would be nine cows an hour.

Post-operative Complications.—About 50 per cent. of the cases develop some degree of sinusitis, particularly animals with a very large cavity exposed in the horn core.

Simple drainage appears to be the most effective treatment and systemic disturbance is slight even in the occasional infected case which shows a purulent as opposed to a clear mucous discharge.

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IV.—By P. SUTTON, M.R.C.V.S., Tunbridge Wells

This method has been used on over 1,000 cases with satisfactory results. I have found it easy, quick, safe, and it allows the horn to be removed at its junction with the skull, so that when healed there are no horn butts which can grow. The animal then looks neat and completely polled.

Preparation.—No preparation of the animal is necessary. No case of regurgitation of rumen contents under anaesthesia has been encountered.

Restraint.—The animal is tied by the horns to a gate post, or strong rail round a yard. Corners should be avoided.

Equipment.—A Cox's inhaler, butchers' saw, and electric disbudding iron. A canvas Cox's inhaler is used, the distal end being tied off as close as possible below the leather sleeve. This mask is sometimes a little small for the bigger breeds which have a wide muzzle, notably Friesians.

Method.—A large pad of cotton wool is placed in the bottom of the inhaler, 4 oz. of chloroform added, the mask is pulled over the nose, the strap passed behind the poll and fastened. In the majority of cases very little struggling takes place and the animal falls down in two to three minutes. The rope is taken off the horns, an assistant pulls the ear downwards and the horn is severed by cutting *upwards* towards the poll. This avoids undercutting the skin down on to the ear. When the bone is cut through, a slight rotation of the horn ensures that while severing the skin it is not torn away from the deeper structures. If the animal has fallen flat on its side, it is much easier, having removed the upper horn, to roll it over before dealing in a similar way with the second horn. The mask is removed after amputation of the first horn if the animal seems deeply anaesthetised. There is plenty of time to remove the second horn before it starts to come round. Where the animal is lying on its brisket, the head can be inclined to either side for amputation of the uppermost horn. Haemorrhage is usually slight and need not be controlled, but where an artery is pumping a hot iron is applied.

The Cooper Stewart hornmaster attached to a car battery is a convenient standby.

The animal is left recumbent while the next is dealt with in a similar way. Most regain their feet in about five minutes. No after-treatment is given. A temporary sinusitis may develop, but in every case this has cleared without treatment and the wound has healed completely.

Eight to 12 animals can easily be dealt with per hour, depending on the efficiency of organisation and assistance.

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The Evaluation of Bull Fertility

BY

M. W. H. BISHOP AND J. L. HANCOCK,
M.V.SC., M.R.C.V.S.
(A.R.C. Unit of Animal Reproduction)

While all the above demonstrations—and that described below, to preserve subject order—were in progress, Mr. Bishop and Mr. Hancock were contributing on evaluation of bull fertility.

Laboratory tests which are being used in an attempt to establish criteria of potential fertility in the bull were demonstrated. The tests included measurements of the respiratory, fructolytic and dehydrogenase activity of semen, the estimation of sperm density and motility and cytological studies.

The Barcroft Dixon apparatus for the measurement of respiratory activity was shown in operation and the techniques employed in the estimation of seminal fructose concentrations and in the determination of dehydrogenase activity by the methylene blue test, were demonstrated. The principles applied in the Rothschild impedance bridge for the measurement of sperm motility were outlined and the absorptiometric method used for the determination of sperm density was illustrated. The microscopical characteristics of living semen from a sterile Friesian bull showing the characteristic developmental defect of the acrosome were exhibited under the phase contrast microscope. A staining technique for the differentiation of living and dead spermatozoa was also shown.

The inter-relationships of the individual tests were discussed and illustrated with graphs constructed from data collected during a survey of the fertility of bulls stationed at four artificial insemination centres.

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Rumenotomy

BY

K. STUART, M.R.C.V.S., Haywards Heath

PARAVERTEBRAL ANAESTHESIA

(1) Half cartridge of Xylotox local anaesthetic was injected into the skin over each of the usual four sites, using a Waite's syringe.

(2) Planocaine 5 per cent. was injected into each of the four sites in turn :—

(*a*) 5 c.c. into muscles via a 1 inch × 16 BWG Record needle inserted vertically to full length.

(*b*) 2 × 10 c.c., mostly just below the posterior edge of each transverse process via a 4 inch or 5 inch by 20 BWG needle inserted through the lumen of the 1-inch needle which had been left *in situ*.

RUMENOTOMY

The previously clipped operation site was cleansed by

applying neat dettol and shaving, followed by a wash with weak antiseptic and spirit applied.

Owing to the difficulty experienced in this case of assessing the degree of anaesthesia, possibly due to the abnormal reactions of a rather sensitive animal excessively restrained, sufficient time was not allowed for the full induction, consequently anaesthesia was poor at the commencement of the operation.

An approximately vertical incision, about 8 inches long, was made through the skin below the third lumbar transverse process, then through the muscles down to the transversalis fascia which, together with the underlying peritoneum, was punctured with a scalpel and the incision enlarged with straight scissors to the extent of the skin incision.

The rumen was then anchored to the edge of the incised peritoneum and transversalis fascia by a continuous No. 8 Nylon suture using a 3-inch round bodied needle so that an oval area of rumen approximately 7 inches long by 2½ inches at the widest point was left exposed. After wedging a small wad of cotton wool into the base of the wound the rumen was punctured with a scalpel and the incision enlarged vertically to about 6 inches with straight Mayo scissors.

Having inserted a rubber sheeting sleeve, the reticulum was explored with the right arm well lubricated with Velufax, and with the assistance of a magnet a piece of baling wire and numerous small pieces of wire were removed. No characteristic "craters" indicating penetration could be felt nor were adhesions detected.

Had it been possible, the animal would then have been rechecked with a metal detector. (The operating theatre was of metal construction.)

The rumen was closed with a continuous No. 8 Nylon "Czerny" type suture, buried by a similar "Cushing" type suture inserted as close as possible to the peritoneal-rumen suture which was left *in situ*. It is essential to use a round-bodied needle for these sutures.

After spraying with 1 c.c. distaquaine suspension in 50 c.c. water, the wound was closed with six eversion sutures through skin and muscle, using ·027 "Luron" nylon on half-curved cutting edge needle, and finally covered with propamidine jelly.

The cow made an excellent recovery.

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COLOURED FILMS ON SURGICAL PROCEDURES

LARGE ANIMALS

(J. McCLINTOCK, M.R.C.V.S., D.V.S.M., Norwich)

I.—Rumenotomy

Rumenotomy is a simple operation which can be carried out under any conditions and with the minimum of help. In fact, all that is required is the assistance of one farm hand throughout the operation. The rumen is securely held during that time by means of simple instruments. Neither clips nor stay sutures are used, thus reducing trauma to a minimum and greatly decreasing the chances of post-operative peritonitis.

Preparation.—The animal is starved for 24 hours beforehand. It is important to keep it tied up during this period as the animal may eat its bedding when it gets hungry. Water is not withheld. The flank is clipped and shaved and anaesthesia produced by subcutaneous and intramuscular infiltration, using about 150 c.c. of 2 per cent. procaine with adrenalin. A 4-inch needle and 50 c.c. syringe are used. The needle is introduced at one point in the centre of the hollow flank area and infiltration commenced. It is then advanced dorsally and a line ventral to the lumbar transverse processes and extending from the last rib to the tuber coxae is infiltrated. At the centre of this line the point of the needle is then entered into the peritoneum, when a hiss of inrushing air may be heard. About 10 c.c. of anaesthetic is injected into the peritoneum. The needle is then withdrawn from the peritoneum and directed into the muscles and a vertical line of anaesthesia produced both intramuscularly and subcutaneously. The hands are then prepared with soap and water and dettol and the needles threaded. This allows time for the anaesthetic to act. First a vertical skin incision is made, commencing about 2 inches below the lumbar transverse processes and midway between the last rib and tuber coxae. It is extended ventrally for about 6 inches. The first drape is applied and the incision made through the muscles. There are cut in the following order with no attempt to follow the lines of cleavage :—

1. External oblique.
2. Internal oblique.
3. Aponeurosis of transverse abdominal.

The peritoneum is now entered and air will rush in. The rumen is grasped with the left hand and partially withdrawn from the wound. A 1-inch incision is made in its dorsal portion and the hook inserted. This is held by an assistant. The rumen incision is now extended ventrally for 4½ inches to 5 inches and the operator hooks his left forefinger into the lower commissure of the wound. The tube is now inserted by entering the dorsal portion first, then the sides by squeezing together and finally the ventral border is entered. The hook is removed and it will be found that the lips of the rumen will cling to the rim of the tube which is pulled back against the skin. A further drape is applied and the end of the tube pulled back over this. The arm is lubricated with liquid paraffin and a search is made. A magnet is useful for picking up odd bits. It is important even when one piece is discovered to continue the search so that the whole of the reticulum is explored. Stimulation of the anterior surface of the reticular wall will generally cause rumination.

As soon as the hand enters the reticulum one can tell if a foreign body has been present because the organ will be ballooned, due to the adherence of its walls to the parietal peritoneum. Areas of thickening should be searched as it is in these that the foreign body will be found.

The clamps are applied and the tension adjusted by means of thumb screws. The tube is removed and the rumen swabbed. Using straight round-bodied needles (darning) and No. 2 chromic catgut, the rumen wound is closed. The suture is tied at the top and the end left long. It is commenced as an ordinary Lembert until the wound is reached and then a Connell suture is used. In this the suture runs parallel to the edges of the wound and penetrates into the lumen of the organ. This is oversewn with continuous Lembert, commencing at the lower commissure and finishing at the top where it is tied to the long end. The wound is swabbed and may be dressed with penicillin.

The peritoneum, the aponeurosis of the transverse abdominal and the internal oblique muscles are caught together with a continuous catgut suture using No. 3 chromic and a 4-inch curved needle. The skin and external oblique, together, are stitched, using about five or six interrupted nylon eversion sutures and a 4-inch curved cutting edged needle with Paterson eye.

The wound is now covered with cotton wool and a rug or clean sack applied to keep it in place. The sutures are removed in seven days when first intention healing will have taken place.

II.—Caesarean Section in the Cow

Subject.—Ayrshire cow ; third pregnancy.
Indication.—Irreducible uterine torsion.
Anaesthetic.—Anavenol-K.
Site of Incision.—Linea alba.

Preparation.—The hair was clipped over the ventral surface of the abdomen. The cow was anaesthetised and an area in the mid-line from the xiphi-sternum to the udder was rapidly shaved. Two rubber sheets were applied to this region and held in place with towel clips.

Operation.—An incision, about 2 feet in length, was made in the skin down to the linea alba. It was then carefully extended through this latter structure until the peritoneum was opened. Using the fingers as directors, the abdominal wall was opened to the extent of the skin wound. The two layers of the omentum were torn with the fingers and the pregnant horn of the uterus was drawn up to the wound. Here it was held by an assistant, with sterile precautions, and an incision was made parallel with its long axis. There was a rush of amniotic fluid which was directed on to the ground. The hind legs of the calf were drawn out of the incision and delivery completed by traction. The afterbirth came with the foetus. The remaining fluid was evacuated from the uterus and the wound in the latter closed, using No. 2 chromic catgut and a straight round-bodied needle. The primary suture was a Connell which was oversewn with a continuous Lembert. The suture line was dressed with penicillin in oil. The uterus was returned to its normal position in the abdomen and the omentum was drawn over it. The wound in the linea alba was now closed with a continuous suture, using a No. 3 chromic catgut, double, and a 4-inch curved cutting edged needle. The skin was sutured with interrupted mattress sutures, using strong nylon, and a gauze pad was stitched on to protect it. The skin sutures were removed in 10 days and recovery was uneventful.

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III.—Caesarean Section in the Ewe

Subject.—Suffolk ewe.
Indication.—Spasm of uterine cervix.
Anaesthesia.—Anavenol-K.
Site of Incision.—Right paramedian.

Preparation.—The site was clipped and shaved and the subject anaesthetised. A rubber sheet with a slit was applied to the area.

Operation.—An incision about 4 inches long was made in the skin and then carried through the very thin abdominal muscles into the peritoneal cavity. The pregnant uterine horn was subjacent and was brought into the lips of the wound by traction on the foetus. The uterus was incised, the foetal hind legs were grasped through the incision and the foetus delivered. The foetus was not viable. The afterbirth was removed. The uterine wound was sutured with a single line Connell suture using No. 2 chromic catgut and a straight round-bodied needle. The lips of the muscle wound were approximated with towel clips. The peritoneum and muscle were, together, stitched with a continuous No. 3 chromic catgut suture, removing the clips as the suture proceeded. The skin was sutured with strong nylon, using mattress suture. Finally, a gauze pad was stitched to the wound.

The sutures were removed in eight days and recovery was uneventful, the wound healing by first intention.

SMALL ANIMALS

(Operations by GORDON C. KNIGHT, F.R.C.V.S.; filmed by E. J. ROBERTS, M.R.C.V.S., both of the Royal Veterinary College)

The Congress session on Tuesday afternoon at the Gas Company's Demonstration Theatre, Terminus Road, Eastbourne, was devoted to cine-films in colour of various major surgical operations on small animals. These films were made at the Beaumont Animals' Hospital of the Royal Veterinary College, London, by Mr. E. J. Roberts, M.R.C.V.S., and the operations performed by Mr. Gordon C. Knight, F.R.C.V.S., who also arranged the programme. Professor J. G. Wright, F.R.C.V.S., was in the chair and opened the session.

The first film showed the open reduction of a recently fractured radius and ulna in a greyhound and the internal fixation of the radius fracture with a Sherman type vitallium plate and screws. The condition of the limb before operation, anaesthetisation of the animal with nembutal intravenously and the whole surgical procedure were included in the film. The animal itself was subsequently brought on the platform to demonstrate the almost normal function of the limb still with the plate *in situ* three or four weeks after the operation.

The next film shown was of transthoracic oesophagotomy in a Scottish terrier for the removal of a bone fragment impacted in the thoracic oesophagus a little posterior to the heart. The operation technique including resection of a rib, the positive pressure ventilation of the lungs employing a cuffed intratracheal tube and the electrically operated air tide interrupter demonstrated a new approach to the difficult problem of thoracic oesophageal obstruction.

The third film was of open reduction and internal fixation of a fractured femur in a greyhound. The fixation method used was an intramedullary pin of stainless steel inserted via the floor of the trochanteric fossa to the medullary cavity of the upper fragment and onwards along the cavity of the lower fragment. This intramedullary pin technique of immobilising the fractured femur has been the subject of a number of published articles during the past year or two but it is believed that the film shown was the first of its kind.

The last film was of surgical repair of an extensive traumatic diaphragmatic rupture in a cat. The animal's respiratory distress prior to operation, intravenous anaesthetisation and intubation, were very clearly shown. The return of the liver and other abdominal viscera from the pleural cavity back to the abdominal cavity, the heart and lungs action, the repair of the rupture and the closure of the laparotomy wound were easily followed. A final view of the cat drinking milk some days after the operation completed the film.

Professor J. G. WRIGHT opened the discussion and Mr. GORDON KNIGHT answered a number of questions on the techniques used in the operations. Mr. Knight also warmly praised the long hours of painstaking care and skill which his colleague Mr. E. J. Roberts had spent in filming the operations, editing the films and in fact making the demonstration possible. The proceedings closed with Professor Wright's vote of thanks.

We hope to publish a report of the discussion in an early issue.

The Exhibit of Specimens by the Veterinary Laboratory, Ministry of Agriculture, Weybridge, and the Research Institute, Pirbright

(N. H. HOLE)

An exhibit of specimens was put up by the Ministry at the Eastbourne Congress with the main object of bringing to the notice of those present the lesions of certain notifiable diseases of animals, and one of the impediments encountered in routine tuberculin testing of bovines. The Research Institute at Pirbright co-operated by providing the series of mounted specimens of the lesions of foot-and-mouth disease; two other notifiable diseases, swine fever and fowl pest, were demonstrated by Weybridge, in addition to "skin tuberculosis." The total exhibit was composed of 48 specimens and 10 photographs.

Many veterinary surgeons to-day have probably never seen and never will see a natural case of foot-and-mouth disease. The fine series of specimens shown, however, clearly illustrated the typical lesions of a disease anyone might one day be called upon to recognise and report at sight. All the specimens exhibited were products of experimental infection, but in this condition the experimental lesions closely simulate those seen in the natural disease. The age of the lesions in each of the 15 specimens was shown, and the transition from the early vesicles on the tongue and digits of infected cattle and pigs to the cicatrised month-old lesions could be followed clearly.

The true diagnostic lesions of swine fever have long been a controversial subject between diagnostician and field veterinarian. There is, however, little doubt that haemorrhages are the true macroscopic lesions of the acute disease; specimens, taken from natural cases of the disease, showing such lesions in the stomach, intestine, bladder, spleen, kidney, mesenteric glands and on the skin were exhibited. The various stages of "button ulcer" formation, which results from a secondary infection becoming superimposed on a primary intestinal haemorrhage, were also shown. In addition, there were a few specimens of interest but of uncertain diagnostic significance, and some intestinal lesions caused solely by *S. cholerae suis*, to demonstrate differential diagnosis. Swine fever has once again become a menace to the pig industry, and these specimens deserved special attention.

"Skin tuberculosis," although apparently in itself an unimportant condition of no economic significance, does appear to exert an irregular effect on the response of cattle to the intradermal tuberculin test. Common lesions of this disease were illustrated by specimens and photographs. In cases where the lesions are well developed recognition is comparatively easy, but specimens were shown where the lesions were discovered only by careful scrutiny of the under surface of the skin at *post-mortem* examination. Another interesting specimen in this exhibit was one in which injection of the lymph vessels clearly showed how multiple lesions frequently develop on a "lymphatic line."

Fowl pest has become a byword in the poultry industry in recent years. The term embraces both fowl plague and Newcastle disease, but it is the latter condition that concerns this country at present. It is notifiable, and, chiefly in its mild form, has spread extensively throughout Great Britain. A number of photographs and specimens were shown which demonstrated the appearance of fowls suffering from this disease in life, and the bowel lesions seen after death. One difficulty in diagnosing this condition lies in the fact that affected birds do not always show marked symptoms and do not always develop characteristic lesions.

There were two features of the exhibit and specimens as a whole that were worthy of special note; the first was the colour preservation and the second was the use of perspex instead of glass, museum jars. One of two methods of colour preservation was used throughout; the old method of primary fixation, secondary treatment with alcohol to bring back colour, and tertiary immersion in a glycerine mounting fluid, and a more recent method in which fixation is carried out in formalin through which coal gas is continually bubbled and the specimen is mounted in glycerine solution that has been saturated with coal gas. The principle of the latter method, of course, is the conversion of unstable haemoglobin into stable carboxyhaemoglobin by the carbon monoxide in the coal gas. The older alcohol method is used at Weybridge for the majority of solid-type specimens with a depth of tissue to be penetrated, and also for material that has lost its original bloom through a prolonged exposure to the air after death before treatment. The coal gas method is used for thin specimens, particularly for the preservation of haemorrhages. It is a superficial colour fixation, and specimens must be trimmed before primary treatment. This method is unsuitable for solid tissues such as liver if there is a cut surface, as "bleeding" develops on standing. It is particularly good for bright red haemorrhages, but tends to over accentuate the darker shades. It is very permanent; a properly preserved coal gas specimen never fades.

All these specimens exhibited were mounted in perspex jars; these are lighter, less easily broken, more uniform optically, and more easily sealed and finished than are glass jars. Although perspex scratches more easily than glass, repolishing is quite a simple matter. It was interesting to compare the two types of jars used; the foot-and-mouth specimens were put up in standard manufactured rectangular containers, and the remainder of the specimens were in jars made at Weybridge from sheets of perspex. The difference was like that between a ready-made and a tailor-made suit; in the one case the specimens had to be made to fit the available sized jar, and in the other case the jar was made to fit the specimen. The suspension of the specimen is almost invisible, the finish is good, and the final product is very clear and pleasing to the eye.

A Presidential Grouping
(Mr. and Mrs. Wright; Mr. and Mrs. Hodgman)

THE SOCIAL EVENTS

We believe firmly that everything about this years' Congress fulfilled expectations and that many features exceeded them. Notable amongst the latter was the dominant rôle played by Eastbourne itself as an attractive conference centre, with its impressive sea-front and attractive streets, also by the Mayor and Mayoress, Alderman and Mrs. Croft, as participants in the social life of our meeting. Inevitably there was all too little opportunity to do justice to the charms of the neighbourhood, but the historic town of Lewes was visited by many, and we hope that some found the time to take that unrivalled coast walk beyond Beachy Head over the Seven Sisters to Birling Gap and round to East Dean. At all events, a goodly mixed company made a fine Congress excursion of the visit to Frant, and certainly the lovely South Down village of Alfriston was not overlooked.

The main features of a most pleasurable social programme are recounted below.

The Divisional "At Home"

The cocktail party—that relatively modern medium for promoting the "get together" spirit—was adopted with supremely happy results by the host Divisions of Congress, the Sussex and the South-Eastern Veterinary Societies, on the Sunday evening introductory to the week of the conference. The spacious ball-room of the Grand Hotel was well filled with an animated company who enjoyed to the full the hospitality provided and the opportunity of welcoming old and new friends. The guests were received by Mr. S. L. Hignett, the President of the Sussex Veterinary Society, and Mrs. Hignett, together with Dr. R. F. Montgomerie, President of the South-Eastern Veterinary Association.

The President of the parent Association, Mr. Hodgman, in voicing the gratitude of the N.V.M.A., said: "I am very happy indeed to have the opportunity of expressing, not only for myself, but for the Officers, Council, and members of the N.V.M.A., my very deep gratitude to the two Divisions which have offered us such magnificent hospitality this evening. The cocktail party conception has indeed proved its worth: we have been right royally entertained and, fortified with excellent food and—dare I say—drink, we look forward to the activities of the week with confidence.

"Both the Sussex and the South-Eastern are very valued Divisions indeed of the parent body and have contributed, through their stalwart representatives to the Council, in no small manner to the steady progress which the Association has been making over the years. We are indebted to both these Divisions, not only for the hospitality we have received this evening, but also for the energy, the drive, and the enthusiasm which they have put in to ensure the success of this Congress by carrying out so many of the details of organisation.

"Ladies and Gentlemen, with very real sincerity let me ask you to accord a very hearty vote of thanks to these two Divisions for all that they have done to welcome us here at Eastbourne and for the manner in which their representatives have given of their best in helping to arrange this Congress."

The assembly signified assent with hearty applause.

Mr. Hignett, speaking on behalf of the two host Divisions, said they had much enjoyed having the company with them that evening and the opportunity of welcoming the "National" to "sunny Sussex," which he trusted would live up to that reputation throughout the week. He hoped that at its conclusion they would be able to say that this year's event was the best annual congress they had ever had. (Applause.)

The Host Divisions

The Sussex Veterinary Society came into being on May 28th, 1936, with a membership of 20 veterinary surgeons resident in the county; these had met at the Old Ship Hotel, Brighton, upon the suggestion of Dr. W. P. Blount, then Chief Veterinary Officer for East Sussex. At this meeting Mr. J. W. Pritchard, of Brighton, was elected the first President, and Dr. Leslie Jordan undertook to combine the offices of Hon. Secretary and Hon. Treasurer. The succession of Presidents comprised members from all branches of the profession, including two women, the Sussex being the first of the Divisions of the "National" to elect a woman to this honour. The present President, Mr. S. L. Hignett, also acted as Hon. Local Secretary to the Eastbourne Congress.

The outbreak of war in September, 1939, put a stop to the activities of the Sussex Veterinary Society for a period of about 18 months, but early in 1941, thanks to Mr. H. S. Caldwell, who became Hon. Secretary, regular meetings were resumed and have been held, mostly in Brighton, approximately quarterly ever since. Mrs. Mary L. Harris, of Guildford, now holds that office. The original membership of 20 has now attained 75.

The South-Eastern Veterinary Association was instituted at a meeting held at the County Hotel, Canterbury, on January 3rd, 1912, on the instigation of Mr. T. C. Toope, M.R.C.V.S., who was then in practice at Dover.

Thirteen veterinary surgeons attended the meeting, among them Mr. James Crowhurst, F.R.C.V.S., of Canterbury, who was elected as the first President, Mr. Toope being elected as the first Hon. Secretary and Treasurer. A full report of this meeting is given in *The Veterinary Record* of January 13th, 1912, when it will be noticed that at the conclusion of the meeting the members adjoined for dinner.

Subsequent meetings were held in various parts of Kent until the outbreak of the first world war in 1914, when a few meetings took place, but the Association did not really function properly until 1919. From then on, meetings have been held regularly three or four times a year with a short break at the beginning of the second world war.

Many well-known names in the Profession have been connected with the Association. Among the Presidents have been Captain F. C. Gillard, of Folkestone; Professor Pugh, now at Cambridge; Mr. J. Bruford, Past-President of the N.V.M.A., and Mr. S. F. J. Hodgman, President of the N.V.M.A. at the time of Congress. The present President of the South-Eastern V.A. is Dr. R. F. Montgomerie.

The Secretaries have included Dr. Gordon, who is now at Compton, and Sir Thomas Dalling, Chief Veterinary Officer of the Ministry and last year's President of the Royal College of Veterinary Surgeons. The present holder of the office is Mr. A. J. Beeson, of Maidstone.

Among the leaders of the profession who have honoured the "South-Eastern" by accepting Honorary Membership are Professor J. B. Buxton, Dr. A. D. McEwen, Professor Brayley Reynolds and Professor G. H. Wooldridge.

THE ANNUAL BANQUET

The Annual Banquet of the Association was held at the Grand Hotel, Eastbourne, on the evening of Wednesday, September 26th, 1951, with the President, Mr. S. F. J. Hodgman, M.R.C.V.S., in the chair. On their arrival the members and their ladies, together with other guests, were received by the President and Mrs. Hodgman.

The high table company, and other guests, included the following :—

The President and Mrs. Hodgman, the Mayor of Eastbourne, Alderman R. J. S. Croft and Mrs. Croft ; Mr. R. Bolton (Chairman, Farmers' Club), Mr. J. W. Bruford (Vice-President) and Mrs. Bruford, Mr. H. E. Bywater (Hon. Treasurer) and Mrs. Bywater, Lord Chelmsford (representing the Kennel Club), Sir Thomas Dalling (Chief Veterinary Officer, Ministry of Agriculture), Sir Weldon and Lady Dalrymple-Champneys, Dr. J. Fenton (M.O.H., Eastbourne), Mr. Freudenthal (Association of Veterinary Students), Mr. A. M. Graham (Ministry of Agriculture) and Mrs. Graham, Mr. Gordon (Deputy Town Clerk, Eastbourne), Dr. H. G. Lamont (Ministry of Agriculture, Northern Ireland), Sir Richard Haddon (Chairman and Managing Director, *The Farmer and Stock-breeder*), Mr. H. E. Hebeler (Hon. Secretary) and Mrs. Hebeler, Brigadier A. G. Heveningham (Director, Army Veterinary and Remount Services), Mr. R. H. Heywood (representing the Commonwealth of Australia and the Australian Veterinary Association), Mr. S. L. Hignett (Hon. Local Secretary) and Mrs. Hignett, Dr. C. M. Hopkirk (representing the High Commissioner for New Zealand), Dr. P. G. Malkani (representing the High Commissioner for Ceylon), Mr. H. T. Matthews (Ministry of Agriculture) and Mrs. Matthews, Dr. R. F. Montgomerie (Past-President), Mr. A. McDowell (Australia) and Mrs. McDowell, Mr. W. G. R. Oates (Secretary and Registrar, Royal College of Veterinary Surgeons), Lieut.-Colonel Rolland O. Scott (representing the American Veterinary Medical Association), Dr. A. W. Stableforth (Royal Society of Medicine : Section of Comparative Medicine) and Mrs. Stableforth, Mr. W. C. Tame (Administrative Head, Animal Health Division, Ministry of Agriculture), Dr. L. P. de Vries (representing the Dutch Veterinary Association) and Mrs. de Vries, Sir Frank Ware (representing the High Commissioner for Canada), Dr. W. R. Wooldridge (Animal Health Trust), Mr. Alan J. Wright (President-elect) and Mrs. Wright, Professor J. G. Wright (President, Royal College of Veterinary Surgeons) and Mrs. Wright.

After the loyal toast had been honoured, Sir Thomas Dalling, M.A., F.R.S.E. (Chief Veterinary Officer, Ministry of Agriculture and Fisheries), rose to offer apologies for the absence of the Minister of Agriculture, Mr. Tom Williams. He read a letter expressing the Minister's regret at his inability to be present, and explaining that this was because he had to attend a meeting of Ministers which had been called suddenly for early the following morning.

"The County Borough of Eastbourne"

Mr. H. T. Matthews, in proposing a toast to the County Borough of Eastbourne, said that such a toast was apt to sound a little impersonal and cold because a place did not mind what was said or thought about it. One could, however, escape from that difficulty by declaiming one of those half-truths which should be listed among the anaesthetics, and say that a place was its people. But the people passed and the place remained. Eastbourne did not have a very notable history, although he believed that its name was recorded in the Domesday Book. Its location on the south coast had enabled it to watch world history sail by. The Armada had come past, chased by Lord Howard and Drake to its destruction, and the beacon had been lit at Beachy Head.

All Sussex was very rich in antiquity. It was Kipling's country of creaking timbers and voices and fairies—scilly Sussex. If anyone found himself at the Wish Tower here, wishing for something he did not really want—such as the fall of the Labour Government or Home Rule for Scotland—he need not worry. It was just scilly Sussex.

"But Eastbourne has known less pleasant times," continued Mr. Matthews, "while waiting for the invasion. It was then grim and desolate with just an occasional uniformed figure on the front, and the decorations were barbed wire. I have watched her under assault from the air, and it is now very good to see the progress that has been made in healing the scars of war. Eastbourne, however, has no other warlike and stirring events to relate. The romance of 1066 belongs a few miles farther east. She has not the glamour of being like Folkestone or Dover, a gateway of England. She never attracted the regency rakes with their astounding legacy of good and atrocious taste. In fairly modern times she has developed her own style without the aid of those external factors—a style which one might describe as an elegance without snobbery, gaiety without flamboyance. These are things which are added to the place by its people."

On the day that Congress had opened, many of them had had the privilege of meeting Eastbourne's first citizen, His Worship the Mayor, and that evening had gratefully enjoyed his hospitality and been presented to the Mayoress. They were all delighted to see the Mayor and Mayoress present at their table now, representing the people of Eastbourne.

It would have been nice to say something really intriguing about the Mayor, to whom the toast was directed, because a very cursory clinical examination revealed him as a most intriguing person. That was made difficult because on occasion his information bureau was singularly discreet and reticent. It was on public record, however, that at the termination of his first year of office the people had refused to let him go, and the affairs of the County Borough still rested on his shoulders. They all wished the Mayor to know that those of his officers who had been given the task of making arrangements in connection with the Congress had met the Association most courteously and helpfully. The Association was grateful to them, and indeed to many other Eastbourne people.

It was the people through the generations who had given character and personality to Eastbourne, and those who were just passing through owed some debt to those who had preserved in it something of the spirit that was in the sun and the wind, in the sweep of the Downs and the rhythm of the sea and all such things which were beyond price.

Alderman R. J. S. Croft, J.P. (Mayor of Eastbourne), in reply, expressed his appreciation for the things said by Mr. Matthews about the county as distinct from the town. Those who had been born and bred in the county were very proud of "scilly Sussex."

The County Borough of Eastbourne was always pleased to welcome a conference to the town because they wanted—and believed the whole country wanted—a friendly atmosphere to prevail. It did not matter whether visitors stayed at the Grand Hotel or at one of the smaller boarding houses, the town wished to make them feel at home. For that reason it offered municipal and privately owned entertainments of a high standard and of a family character. The residents, without any sense of snobbishness, regarded themselves as slightly different from others, and for those who wanted a visit to the seaside in comfort, they provided facilities which were rather above the fun-fair standard. They were pleased

for anyone to come to the town, irrespective of their class, colour or creed, to appreciate its floral beauty in a place where there was no class distinction.

To everyone present the Mayor reiterated his appreciation of the cordial way in which the toast had been received, and he referred to the motto inscribed on his badge of office : " We seek better things." Eastbourne, he concluded, was always looking ahead for better things.

" The National Veterinary Medical Association "

Sir Richard Haddon, C.B.E. (Chairman and Managing Director, *Farmer and Stock-breeder*), in proposing a toast to the National Veterinary Medical Association, said that he was honoured in doing so because in his 30 years' career in journalism he had not before had the pleasure of proposing the toast of a profession ; moreover, their profession and his had much in common.

As a farmer and journalist, and as one on the fringes of the Ministry, he had watched with admiration and the greatest interest the change in appreciation of human understanding that had come about in the veterinary profession, as in many others. That change in the veterinary profession was fundamental and it had been welcomed because there had been a time when the profession had stood somewhat aloof from journalism and the public at large and certainly from the organisations which spoke for agriculture.

" I appeal to you," he said, " not to slip back and not to resort once again to the academic ; do not phrase your recommendations and your appeal to the farming and general public in such a way that even your own profession cannot understand them. I saw two or three days ago that the Royal College had issued a strict ethical code regarding your relations with the Press and the general public. I read it and re-read it. I read it again in my bedroom to-night, and if someone can let me have a proper interpretation of what is meant, I shall as an editor be most grateful."

The veterinary profession and the farmers had to face the serious problem of diseases and ailments of livestock, which cost the country many millions annually. The problem had to be tackled by the profession in conjunction with the farmers. Very considerable advances had been made in recent years, and the profession had brought about a far better understanding between itself and the farming community. Farmers were now probably giving veterinary practitioners a fair chance by calling on their services earlier.

" I know," he went on, " how overworked your profession is, and also that no farmer wants to pay the 1s. 6d. per mile charge too many times in the course of a week, and I am certain that by conveying some knowledge to the practising farmer and to the herdsman and groom, as you have done in recent times, you are creating a bridge and we shall gradually reduce these calamitous losses.

" In proposing this toast I couple with it the name of your President, who, I know you will agree, has done, and is still doing, as much for your profession as any man in the past. In my opinion, it took not a little courage on his part to forgo, as he did, a well-established general practice and accept an important post in research. I want to assure you, Mr. President, and your colleagues, that in another capacity which is known to most of you I will do my very best to see that your confidence and judgment are not misplaced."

Mr. S. F. J. Hodgman, M.R.C.V.S. (President), in reply, said that in thanking Sir Richard for the kindly way in which he had proposed the toast he was reminded of his eminence in the publicity world.

He went on to say that since his election to the office of President he had realised much more than in the past how important the N.V.M.A. was to its members. There were a number of people who thought of the " National " in connection with the academic, scientific and social sides, but there was another side to it which dealt with an enormous amount of work to safeguard the interests of the members. That was perhaps not always fully appreciated, but one looked forward to the day when every member of the veterinary profession would realise how well worth while it was to belong to the " National." The Association was going from strength to strength, and it was to be hoped that it would continue to do so.

He said that on this occasion he wished to keep his remarks as brief as possible because so much had already been heard from him that day. He therefore wished to do no more than repeat his thanks to Sir Richard for the charming way he had proposed the toast.

" Our Guests "

Mr. A. J. Wright (President-elect), in proposing a toast to " Our Guests," said that this duty was a very happy and pleasant one. They were indeed fortunate to have with them that night such a number of famous and distinguished guests and to them all, whether from home or overseas, the Association extended a very hearty welcome. They sincerely hoped they had enjoyed themselves with them and trusted that those who were attending the other functions and meetings of the congress would have an enjoyable, interesting and instructive week and would depart with happy memories of their association with the " National."

They were delighted to have with them Sir Richard Haddon, Chairman and Managing Director of the *Farmer and Stock-breeder* group of publications. As they all knew, the *Farmer and Stock-breeder* was one of our most famous agricultural journals ; it was, in fact, an encyclopoedia—he often wondered it was not advertised thus : " How to become the *complete and perfect farmer* by a correspondence course in 52 weekly editions."

Sir Richard had always been closely associated with agriculture and was famed particularly for his work for the agricultural Press. They welcomed his suggestion of a closer liaison between the veterinary profession and that Press. They welcomed and appreciated his presence there, and sincerely hoped that he had enjoyed his stay with them and that they would see him again on future occasions.

Professor John George Wright, to whom also they extended a warm welcome, had the honour of representing the R.C.V.S. at that Congress, and they—perhaps the more adventurous body within the profession—congratulated him on his election to the Presidency of the Royal College and expressed their pleasure at having such a good and famous educationist holding that high office.

Also present were Sir Weldon and Lady Dalrymple-Champneys, who needed no introduction but were very welcome indeed ; he well recalled being asked if Sir Weldon was a member of the profession, as he was so often present at their functions. They were all delighted to see Lord Chelmsford present, representing the Kennel Club. It was the first occasion upon which the Club had been so represented and everyone was pleased to think that this year there had been formed a liaison committee, thus creating a closer relationship between the two bodies which would be of great benefit to both. To Brigadier Heveningham, Director of the Army Veterinary and Remount Services, they extended a very hearty and sincere welcome. It had been most pleasing to hear that the body he represented was considering the

formation of a Division of the Association, which development was long overdue.

Time would not allow him to mention by name all the guests who were present that night, but the Association did sincerely extend to them all a very hearty welcome and were extremely pleased and proud to see them there.

He could not sit down, however, without extending a special welcome to their lady guests, expressing their deep thanks and appreciation for their presence at the Association's annual congress. What dull and sombre affairs those functions would be without them! Moreover, the inveterate habit of the mere male of talking shop all day long, and often well into the early hours of the morning, was controlled by the ever-watchful presence of their better halves. Many of the wives of veterinary surgeons needed a high endowment of the quality of stamina to stay the course with their husbands. He thought many of the latter, particularly practitioners, often forgot and failed to appreciate the great debt they owed to their wives, who in so many cases had helped and worked so hard in building and maintaining their practices.

They were delighted to see them all and earnestly hoped they would enjoy their stay with them. Might they continue to grace their gatherings with their charming presence and influence.

With the President's permission, he would like to couple with the toast, a toast to absent friends, who through ill-health or other circumstances were unable to be with them this year.

Professor J. G. Wright (President, Royal College of Veterinary Surgeons), who responded, said that in replying to the toast of the visitors at a veterinary gathering, he found himself in an unusual rôle, but to-day he was present in his capacity as President of the Royal College. When he was elected to that office a number of friends outside the profession had written to congratulate him saying, "I see you have been made boss of your trade union!" He had, however, to disclaim that honour because he felt that if there was any body within the profession which bore a resemblance to a trade union it must be the N.V.M.A., for that body certainly possessed some of the more desirable features of a trade union.

For example, it held annual congresses and banquets; it was deeply concerned with the welfare of its members, whether they served as practising veterinary surgeons or were engaged full-time by some public body. These were very laudable activities. But it did not concern itself solely with the interests of its members. It was continuously sensible of what it believed to be best in the welfare of the nation, best in the interests of the animal owner and, last but by no means least, best for the welfare of the animal itself.

It also produced the *Record*. He must confess that he did not always agree with what he read in it, but the world, particularly the veterinary world, would be a very much poorer place if there were no *Record*. Moreover, during recent years, the Association had issued a number of most valuable publications on modern advances in the various aspects of animal husbandry and veterinary science, and he would assure them that those engaged in the schools found these booklets a valuable adjuvant to their teaching.

By the recently introduced Act it had become quite clear that Parliament believed that owners of animals and animals themselves should always have the advantage of a veterinary surgeon's assistance. He could assure them that the Council of the Royal College of Veterinary Surgeons were very sensible of the objects of that Act and it would be their best endeavour to ensure that it was translated to the public both in the spirit and in the letter. They believed that the time for charlatanism in the treatment of diseased animal was over. We must see that it never came back. He would assure Sir Richard Haddon that the ethical code he found so difficult of understanding had been formulated chiefly so that the public should be protected.

The second part of the Act was concerned with education. The Royal College was now relinquishing its task of setting their educational standard by means of its examinations. The colleges had now been incorporated in their respective universities, and the Royal College, although there had been differences of view at the outset, was now satisfied that by that incorporation their profession would raise not only its educational standards but also its status in the country. It was their intention to go forward with the universities, not in any carping spirit but in a spirit of full helpful collaboration.

He continued: "I think it might become us on an occasion such as this to compliment the Royal College and especially those men who have served it in the past on the magnificent task they have so long performed in maintaining and progressively increasing our educational standards, for the Diploma of our College is a world-wide standard of what an education in veterinary science should be and it is envied everywhere. So we bow our heads not with shame but with great pride."

It was a tragedy that at the moment when everything was so favourably set for the great expansion of the teaching institutions that development became marred by the necessary expenditure of a gross amount of money on rearmament. Undoubtedly that was going to set them back. Nevertheless, since January 1st of this year there had been 30 advertisements for teachers and lecturers in veterinary colleges. It seemed fantastic that in the course of nine months it should have been found that the teaching staffs could already be increased by 30.

"I might remind you," went on Professor Wright, "that with our protection through the medium of the Veterinary Surgeons Act not only have we gained great privileges but great responsibilities as well. We must be quite sure that we are prepared and able to deal with all those lesser animals which are now our responsibility and which in the past have so often been dealt with, maybe you will say inadequately, by lay people. We must be quite sure that we are trained and have the men to deal with all the poultry and all the sheep because unless we are able to do that I fear a move might come about whereby the splendid position that we hold to-day—a position which I think is held by no other profession—would be shattered."

The guests, he concluded, gave their thanks to the Association for the superb hospitality they had enjoyed, for the kindly personal references made to them, and for the enthusiastic manner in which the toast had been received.

Sir Weldon and Lady Dalrymple-Champneys, with Lieut.-Colonel Rolland O. Scott, U.S.A.

The Civic Reception

The Floral Hall at the Winter Garden—the scene of our scientific sessions—underwent a pleasing transformation to what one assumes to be its normally gay appearance for that important and welcome feature of every conference social programme—the Civic Reception, held on the Monday evening.

The company of guests—a very large one—was received by the Mayor, Alderman R. J. S. Croft, and the Mayoress, also by the President of the Association and Mrs. Hodgman. A most efficient and attractive cabaret performance supplemented the main feature of some thoroughly enjoyable hours of entertainment—dancing to the music so efficiently provided by Gordon Rider's (resident) band.

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The President's Reception

No social event of the Association's year could possibly be more popular than the President's Reception, affording the members, as it does, the opportunity to testify by their presence to their deep appreciation not only of the arduous year's work of the Head of the N.V.M.A., but to the invaluable seconding of his efforts " behind the scenes," as it were, of his almost equally self-sacrificing wife.

Accordingly there was a crowded attendance on the following evening—Tuesday, September 25th—at the Grand Hotel, where, having been received by Mr. and Mrs. Hodgman, the guests again danced with unwearied enthusiasm until a late hour. The function was honoured by the presence of the Mayor and Mrs. Croft, who joined heartily with the assembly in according musical honours to the President and Mrs. Hodgman, on the call of Mr. Alan Wright.

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Ladies' Guild Dance

Once again this function, organised by the Ladies' Guild in aid of the Victoria Veterinary Benevolent Fund, took place during Congress week.

It was a very enjoyable evening and as usual offered a relaxation from the more formal functions held earlier in the week. The dance was very well attended and therefore a source of great satisfaction to those endeavouring to make a really good contribution to the Benevolent Fund. A raffle was organised, a clock having been presented for this purpose, and when the draw took place it was with much pleasure that those assembled heard that the winner was Sir Weldon Dalrymple-Champneys, who accepted his prize amid much applause. Towards the end of the evening, the Dunkin Golf Trophy was presented by Mrs. A. J. Wright to the winner of the competition played that day—her husband, Mr. A. J. Wright, President-Elect of the Association. On this happy note the dancing continued for another hour or so, when final good nights and thanks were given.

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Ladies' " Mystery Tour "

The title applied to our excursion on Tuesday, September 25th, introduced an intriguing element, even for those among our party of 34 ladies who were no strangers to the scenic delights and historic treasures of the South-East corner of England.

Leaving the Winter Garden promptly at 2.30, the first place we called at was Pevensey. It was decided not to leave the coach, so we had just a glimpse of the old castle and Mint House. We then set off once again to Battle and the driver kindly told us about any interesting features on route, the Abbey being of particular note.

We passed on through really lovely country and I think we all fell in love with Sussex.

We had a very nice tea at Drusilla's Tea Room at Alfriston, the charming village which boasts possession of a magnificent Church, widely known as the " cathedral of the South Downs." Several ladies visited the little shops there and made some purchases. By then, as perhaps was to be expected, time was getting on so we made for home.

On the way back we saw and were duly impressed by the Long Man of Wilmington on the hillside. It was a most enjoyable trip and on the whole the weather was kind to us.

M. E. W.

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The Golf Competition

Fifteen of our golfing enthusiasts, including some of our members most busily engaged throughout the week on more serious matters, made their way on the Thursday afternoon to the excellent course of the Eastbourne Downs Golf Club to participate in the competition for the Simpson trophy. Eight completed the stiff course, and that one of these was the President-Elect, Mr. A. J. Wright, was held to be a good omen! Not only that, but, conceding five strokes to Mr. George Gould, winner of the competition for the last two years, he reduced him to the position of runner-up with a score of 74-75. Mr. Wright thus added one more to the numerous ovations he received during the Congress when, to the hilariously expressed delight of the company, he received the cup at the hands of his wife in the evening, on the occasion of the dance held by the V.V.B.F. Ladies' Guild, of which Mrs. Wright is this year's President.

It is to be regretted that lack of adequate entry precluded the holding of a similar competition for the Dunkin (Ladies') Cup.

Valentine & Son, Ltd., Dundee

HOLYWELL RETREAT, WEST BEACH, EASTBOURNE

THE COMMERCIAL EXHIBITION

In respect alike of the accommodation provided and of its accessibility, our friends of the commercial houses serving the profession and the members of the Association had equal cause to regard the site of this year's exhibition of drugs, instruments and appliances, in the Pavilion of the Winter Garden, Eastbourne, as approaching the ideal. With some good "over-all" planning to help them, the record number of exhibitors were each and all responsible for a most effective and helpful display, making full use of the satisfactory conditions tastefully to dress their stands and to show their wares to the best advantage. Throughout the week the exhibition hall presented, inter-sessionally, a busy scene of inspection, discourse and brisk business.

The official opening of the exhibition took place towards the termination of the proceedings of the opening meeting of Congress itself, and the President's remarks in commending its features to the interest of the members will be found in that section of this issue. The presentation (also reported therein) made to Mrs. Hodgman by Mr. John Lea, of Minsal, Ltd., on behalf of the exhibitors, was greatly appreciated alike by the recipient, by the President and by the members N.V.M.A.

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The Stands

ARNOLD & SONS, 54, Wigmore Street, London, W.1. The equipment shown by Arnold & Sons on their stand this year was very comprehensive and covered almost the entire range of veterinary requirements.

Among the new products were the automatic hypodermic syringe, the all-metal clinical thermometer, new intramedullary pinning equipment, and intratracheal tubes.

Subsequent to the films by Mr. G. Knight, a number of enquiries were for retractors, manually and mechanically operated.

A range of Plim hypodermic syringes was shown. Now that their teething troubles are over, these are becoming very popular with veterinary surgeons, due to their economy on the cost of repairs.

A number of Hauptner instruments were also on view.

Those members of the profession who were unable to attend the Congress are reminded that a comprehensive range of instruments is held at Branches at 130, George Street, Edinburgh, 2, and 44, Kildare Street, Dublin. It is hoped to open shortly a Branch at 1, Market Street, York.

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BAILLIERE, TINDALL & COX, Publishers and Booksellers, of 7-8, Henrietta Street, London, W.C.2, displayed a full range of their veterinary books. These included the new second edition of Kirk's "Index of Treatment in Small Animal Practice," which has been thoroughly revised and brought up to date by the author, and the second edition of Benesch and Wright's "Veterinary Obstetrics," which has been expanded to more than double the size of the previous edition and is, in effect, an entirely new work.

Much interest was displayed in a specimen copy of the new book on "Hen Batteries," by W. P. Blount, PH.D., F.R.C.V.S., F.R.S.E. (since published). This book is the only comprehensive guide to the subject, and many favourable comments were excited by its extensive coverage and wealth of illustrations and tables. Also included in the display was the same author's "Diseases of Poultry," which is now coming to be regarded as the standard book on the subject in this country.

Standard works on show included Dollar's "Veterinary Surgery," Anthony's "Diseases of the Pig and its Husbandry," and Hoare's "Veterinary Materia Medica and Therapeutics," while advance information was given of the new second edition of Hagan's "Infectious Diseases of Domestic Animals," which will be available before the end of the year.

BAYER PRODUCTS LTD., Africa House, Kingsway, W.C.2. This stand featured a selection of the firm's wide range of chemical and biological preparations. Pride of place was given to biologicals for sheep diseases, which, like all Bayer veterinary preparations, are sold to qualified members of the profession only. The list comprised sera and vaccines for lamb dysentery, pulpy kidney, braxy, blackleg and black disease.

Two chemotherapeutics, "Hepmin," the well-known injectable liver extract with added B_{12}, iron and trace elements; and "Amphotropin," a popular treatment for hard pad and post-distemper nervous conditions, were also prominently displayed. The panel on "Obesil," a uracil compound for the fattening of animals prior to slaughter, proved to be of great interest to veterinary surgeons and many enquiries were received.

Some well-known Bayer veterinary products such as "Murnil;" vitamin H, for skin conditions; "Nemural," for tapeworms; "Odylen," for mange and eczema; "Novalgin," analgesia and anti-rheumatic, and "Aricyl," arsenical tonic, were also exhibited.

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BOOTS PURE DRUG CO., LTD., Nottingham. This exhibit displayed a new economy pack of 100 tubes of calcium penicillin and a dispensing pack of 12 tubes, both with tear-off labels.

Also on view was a hormone exhibit, illustrating the products of serum gonadotrophin, packs of chorionic gonadotrophin, and stilboestrol for injection.

The new method of table poultry improvement by implantation, using the oestrogen hexoestrol, demonstrated the superior effects on the bird and the reduced oral potency to man of this hormone, as compared with stilboestrol.

Attention also was drawn to the dispensing packs of sulphanilamide, and an extremely economical obstetric cream.

A display of literature on products, and the history, organisation and service offered by the company, was also a feature of the exhibit.

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BRITISH GLUES & CHEMICALS LTD., Imperial House, Kingsway, W.C.2. The B.G.C. "Churn" stand at this year's show was an informational stand illustrating the content of mineral supplements, the proportions in which minerals are found in different feeding-stuffs, the part they play in the animal body and various ways of administering them.

There was available a complete range of leaflets showing mineral requirements for various types of farm stock and copies of the latest issue of the *Churn Bulletin*. The usual technical staff were in attendance.

A small centre-piece to the stand was a transparent photograph of Manningford Faith Jan Graceful, who has during her lifetime produced a total of over 120 tons of milk and is a member of the outstanding Elmwood herd, which has an average milk production for cows and heifers of over 1,600 gallons. Details of the herd have now been collected into a booklet "The Story of a Churn Fed Herd."

Considerable interest was shown in the extra high phosphorus mixtures now prepared to supplement the many low phosphorus maintenance rations used to-day. As one of the mixtures' main uses is in cases of non-specific infertility it is also prepared with extra iodine and manganese.

Interest was also expressed in the method of using cut-out and sectioned illustrations to demonstrate the locality and functions of minerals.

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BRITISH SCHERING, LTD., 229-231, Kensington High Street, London, W.8. These well-known manufacturers of medical and pharmaceutical specialities were exhibiting for the first time at the Veterinary Congress Exhibition.

They showed four preparations for veterinary use: "Acetocid" (soluble sulphacetamide) eye preparations, "Enterocid," a new, non-systemic sulphonamide for the treatment of bacillary enteric infections in both large and small animals, "Disecron," a combined hormone injection for the prophylaxis and treatment of infertility in breeding animals and "Iviron," intravenous iron, for the rapid restoration of blood haemoglobin.

Of these four products, "Iviron" aroused the most interest among the veterinary surgeons visiting the stand. "Iviron" is a sterile

solution of saccharated iron oxide of exceptionally low toxicity, suitable for intravenous injection. It provides a means of producing a predictable rise in blood haemoglobin safely and rapidly and is, therefore, especially indicated in the treatment of red-water fever in cattle, in convalescence after acute haemorrhage and accidents and in the treatment of cat anaemia after cat influenza.

"Iviron" has none of the side effects of oral iron and may be given to very ill animals with perfect safety.

The "Acetocid" soluble eye drops and eye ointment were already known to many visitors who were using them under their "medical" name "Albucid" The active principle in both is sodium sulphacetamide, a non-irritant sulphonamide with a wide range of antibacterial activity, especially suitable for local application in infections of the eye.

The advantages of "Enterocid" (phthalylsulphacetamide) were readily appreciated. Part of the display showed that this sulphonamide is unique in attaining a high concentration in the tissues of the intestinal wall without entering the systemic circulation to any appreciable extent.

A chart superimposed on a photograph of a cow licking her newly born calf showed the simplicity of the dosage with "Disecron." Two injections of this combination of oestrogenic with progestogenic hormones in the three days following oestrus are sufficient to maintain the normal rate of ovum descent and to induce adequate progestational changes in the uterine bed. "Disecron" is therefore a prophylactic against infertility due to nidatory failure and habitual abortion caused by inability of the placenta to maintain a normal output of progesterone.

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Burroughs Wellcome & Co., 183-193, Euston Road, London, N.W.1. On this stand the words "Tested in the Laboratory, Proved in the Field" summarised the purpose of this exhibit, which was to demonstrate the research background to, and the meticulous care taken in, the preparation of B.W. & Co. products.

"Lutormone" and "Wellcome" penicillin intramammary injections were selected as most suitable for emphasising this theme. In the case of "Lutormone," the visitor was shown a few of the various stages which occur between the receipt of luteinising hormone and the time when the final aseptic product is ready to be injected by the veterinary surgeon. Tests for sterility, tests for potency, tests for uniformity—to all these tests the product has to comply, and as was made abundantly plain, any batch failing to measure up to these high standards is uncompromisingly rejected. "Wellcome" penicillin intramammary injections were illustrated similarly; this section also included a large model of the patented "Wellcome" tube with its piston-like paraffin plug in the base for sweeping the suspension into the udder, and its leakage-preventing paraffin plug in the nozzle.

Biological and hormonal products were also exhibited. Among these were "Wellcome" brands of concentrated lamb dysentery serum, pulpy kidney serum, black disease vaccine, braxy vaccine, *Leptospira canicola* vaccine, canine distemper prophylactics, pregnant mares' serum and progesterone.

Not least among the features was the attractive folder, specially designed for the Congress and distributed to all veterinary surgeons before the opening date. As last year, when a similar folder was prepared for the Cardiff Congress, the front cover depicted a legend of local interest—on this occasion, the story of the building of Alfriston Church, "The Cathedral of the South Downs." The inner pages, among which was one designed as a wallet for carrying literature and papers, provided summaries of places of interest around Eastbourne, together with an attractive map of the district.

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Chappie Ltd., Trading Estate, Slough, Bucks. One of the most attractive stands visited was that of Chappie Ltd. This company has specialised for a long time in the production of dog and cat food. Samples of the company's four products—Chappie, Lassie, Kit-E-Kat and Whiskas—were shown together with charts detailing the formula used in their manufacture. Many people who pay careful attention to the vitamin content of their own food are remarkably indifferent to the diet of their dog or cat. Scraps mixed with dog biscuits constitutes the everyday food of most small animals, with the result that the pet gets too much starch and not enough of the animal proteins and vitamins so essential to its health. The dietetic work of Chappie Ltd. was illustrated by photographs at the stand.

It is undoubtedly of the greatest value that there should be full co-operation between veterinary surgeons and the manufacturers of animal foods, and Chappie invite enquiries from members of the profession on any matter affecting the nutrition of dogs and cats.

Samples of the food were obtainable at the stand for use in test on research work, and they may also be had by writing direct to Chappie Ltd.

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Crookes Laboratories Ltd., Park Royal, London, N.W.10. Six preparations of interest to veterinary surgeons were shown. The back panel was based on the somewhat striking statement shown in the accompanying advertisement "Acres of Pasture in One Injection." This relates to the very high concentrate of pure vitamin A to be found in *Crookes Vitamin A Injection.*

Crookes Obstetric Cream. This entirely new preparation is a resistant, protective lubricant, specially prepared for routine veterinary use. Although remarkably persistent at body temperatures, it may readily be removed from the hands in hot water and does not dry or cause dermatitis. Indicated as a lubricant in dystokia of both large and small animals and as a useful vaginal dressing following manipulation. Crookes obstetric cream is supplied in 4 oz. tubes for professional use only.

In *Crookes Calamine Lotion* the mildly astringent and sedative properties of calamine and zinc oxide in semi-colloidal form are blended in a lotion base to give a stable suspension. Its use is recommended in the routine treatment of all non-parasitic skin disorders, and as a dressing for minor wounds and abrasions. Diluted 1 : 4 with spirit, calamine lotion is a very effective dressing for the treatment of otitis in small animals This product is thixotropic and should be shaken before pouring.

While *Collotone* as a small-animal tonic has now earned for itself a place in the dispensary of most veterinary surgeons, its efficacy in the field of agricultural practice may be unfamiliar to many veterinarians. Collotone is extremely effective in aiding the recovery of calves from scouring, especially where the administration of chemotherapeutic agents has led to the depletion of the beneficent ruminal flora and in all cases where there is an indication for the restoration of normal ruminal function. It is also extremely helpful in restoring the tone of the gut musculature. Half a tablespoonful twice or thrice daily according to age may conveniently be administered in milk. Further particulars are available on request.

Crookes Stilboestrol Injection in ethyl oleate has a viscosity one-tenth that of stilboestrol in vegetable oils. It is a great improvement on the old type of injection in oil since it is possible to use a fine needle and it is unnecessary to warm the bottle beforehand. It is supplied in 15 c.c. or 30 c.c. rubber-capped bottles.

Crookes Halibut Oil provides a high concentrate of vitamins A and D. Five drops (0·17 c.c.) contain 4,900 I.U. vitamin A; 490 I.U. vitamin D; one capsule contains 6,000 I.U. vitamin A; 600 I.U. vitamin D.

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Evans Medical Supplies Ltd., Speke, Liverpool, 19. A representative range of biologicals was featured. Special attention was devoted to Rondase brand of hyaluronidase (Evans). Preliminary reports from veterinary surgeons have indicated that hyaluronidase has many applications in hypodermoclysis.

Other products that were featured included "Distaquaine" suspension veterinary (manufactured by The Distillers Company (Biochemicals) Ltd.); Pirevan, the specific for red water; Evans veterinary dusting powder; intramammary injections of penicillin; calcium borogluconate injection and many others.

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W. Gimber & Sons, Ltd., 2, Queens Road, Peckham, London, S.E.15. This firm presented a wide range of their instruments and sundries.

Particular interest was shown in the extra long aural speculum used in conjunction with the "Crocodile" aural forceps for the extraction of foreign bodies from the ear, and the "Gillies" pattern needle holder and scissor combined, as demonstrated in the films on small-animal surgery shown during the Congress.

Also shown were part of the latest range of "Hauptner" instru-

ments now available in this country, including the hoof cutter, embryotome wire and hand and electric clippers.

The continued interest shown in their exhibits was a cause of great satisfaction to the firm.

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Glaxo Laboratories Ltd., Greenford, Middlesex. The range of Glaxo products offered to the medical and veterinary professions is backed not only by an extensive research organisation, but also by considerable manufacturing resources. From the earliest days of penicillin the company has played a leading part in the production of antibiotics in Britain, and to-day, Glaxo penicillin and streptomycin preparations are known and prescribed throughout the world.

Glaxo exhibited three antibiotic products for use in the treatment of bovine mastitis: penicillin veterinary cerate Glaxo, procaine penicillin veterinary cerate Glaxo (a rapid two-dose treatment for bovine mastitis), and dihydrostreptomycin veterinary cerate Glaxo (for treatment of bovine mastitis associated with infections resistant to penicillin). Six different forms of penicillin as supplied to the medical profession and dihydrostreptomycin Glaxo completed the display of the company's antibiotics. Also shown were seven Glaxo medical products of veterinary interest: Adexolin (vitamins A and D concentrate, in capsule and liquid form); Minadex (vitamins A and D with iron, calcium and other minerals, in orange-flavoured syrup); colloidal calcium with Ostelin (vitamin D and calcium for injection); Casilan (whole protein preparation in powder form—26 grammes of protein per oz. and virtually tasteless); Anethaine (amethocaine hydrochloride, for local analgesia; powder and solution); Anethaine ointment (amethocaine in water-miscible base—for swift relief of superficial pain); Berin (vitamin B_1, by mouth or injection).

A series of photographs on the stand illustrated the story of Glaxo research.

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James L. Hatrick & Co. (London), Ltd., 58, Britton Street, Clerkenwell Road, London, E.C.1. This firm has been manufacturing surgical and veterinary instruments for nearly three centuries, and it specialises in the production of sutures, catgut (chromic), etc.

Making a welcome first appearance at the Congress, the firm's main display was the prototype of a tuberculin-test instrument case, made of anodysed aluminium, containing three syringes, either dental manufacturing or McLintock's, with a space for vials for avian and bovine injection ampoules, space for a small steriliser and a torch. This case has been inspected by the Ministry of Agriculture.

Other exhibits included a Canonbury bag, containing four drawers to hold all instruments for small-animal surgery, as well as various veterinary instruments of Hatrick's own manufacture, used in general practice.

This firm also makes a feature of replacing broken hypodermic syringes with new ones, and it holds stocks of hypodermic needles of all sizes.

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C. J. Hewlett & Son, Ltd., 35-43, Charlotte Road, London, E.C.2, and Glasgow had a very comprehensive display of veterinary specialities, injections and instruments, including those for McLintock's technique for rumenotomy and tuberculin testing syringe. Preparations of note included:—

Calcium boro-gluconate, calcium boro-gluconate P., P-M and P-M-D, for the treatment of milk fever.

Penicillin sulphadimidine, a suspension of penicillin (100,000 units) and sulphadimidine (1 gramme in an oil-wax basis)—indicated in cases of bovine mastitis where the infective organisms are mixed streptococci, complicated by a secondary pathogen (except *C. pyogenes*).

"Anaesco," an oil soluble anaesthetic for epidural and prolonged local anaesthesia, and "Carbamylcholine" for cases of impaction of the caecum and colon were on display.

Hewlix vitamin tablets, for use in small animals: a convenient, small, easily administered tablet of the essential vitamins and minerals.

"Verileen" (brilliant green compound) for calf scour caused by *Bacterium coli*.

Parophyroxia for colic impaction in horses, "Myroxline" for mange and ringworm and "Sarcogen," an effective lotion for destruction of lice, were some of the well-tried specialities featured in the display.

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Holborn Surgical Instrument Co., Ltd., 15, Charterhouse Street, London, E.C.1. A comprehensive exhibit of Holborn instruments and appliances of interest to veterinary surgeons was displayed on the firm's stand. Several outstanding items of particular note were seen by visitors, including the following:—

Christensen teat-slitting scissors.
Columbus teat plugs.
Cow and ewe speculae.
Italian pattern embryotome with single tube.
Neilsen's modified uterine vulsellum forceps
Electric debudding iron.
Electric horse tooth rasp.
Strong pig snout tongs, hand forged.
Sheep foot-rot shears.
Stilboestrol pellet injector with magazine to hold 25 doses.
McLean's whelping forceps.
Ferguson's angiotribe.
Bone fracture fixation splint for dogs and cats.
Intramedullary pins for fracture treatment.
Castrators and emasculators.
Holborn tattooing forceps of light-weight rustless metal.

We understand that all the above are fully illustrated and described in the new Holborn Veterinary Instrument and Appliance Catalogue of over 100 pages, which is available to practitioners on request.

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Imperial Chemical (Pharmaceuticals) Ltd., Fulshaw Hall, Wilmslow, Manchester. A new preparation for the control of frothy bloat in ruminants was announced by Imperial Chemical (Pharmaceuticals) Ltd., at this year's N.V.M.A. Congress Exhibition. Named "Avlinox," it is a non-toxic surface-active agent with pronounced anti-frothing properties, and extensive clinical trials have already proved it to be outstandingly successful in cattle, sheep, and goats. Administered orally, or directly into the rumen, "Avlinox" rapidly breaks down the bubbles and allows the accumulated gas to be regurgitated, thus bringing speedy relief to the affected animal.

Also introduced was the new "Avdet" teat bougie, which now contains 100,000 units of "Avloprocil" procaine penicillin G, in a non-irritant milk-soluble base. Design and packing of the "Avdet" bougie have also been improved, and the new formulation combines high potency with prolonged effect, plus the advantages of simple administration and economy in use.

In addition, the I.C.(P.) stand displayed the well-known veterinary sulphonamide "*Sulphamezathine*"; an outline of the wide range of valuable uses to which the bactericide and detergent "*Cetavlon*" can be put and "*Kemithal*" *Sodium*, a new development in veterinary anaesthesia for small animals.

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International Serum Company Ltd., Mill Hill, London, N.W.7. The complete range of sera and vaccines exhibited by the International Serum Co., Ltd., included swine erysipelas serum and vaccine, pulpy kidney serum, lamb dysentery serum, tetanus antitoxin, pneumonia serum, blackleg serum, staphylococcus and *C. pyogenes* toxoids, abortus vaccine S.19, etc.

Other products exhibited included swine fever serum and crystal violet vaccine, as well as "Padisan" canine distemper and hard pad serum, products of the Behring Institute, Eystrup.

In addition to their well-known range of sera and vaccines, the International Serum Co., Ltd., introduced some of the veterinary specialities of the Farbenfabriken Bayer, Leverkusen. Foremost among these products is "Supronal," an improved sulphonamide, effective against both aerobic and anaerobic organisms, which is supplied in the form of an emulsion for local application. Other products included "Lusane" solution for the treatment of lungworm in cattle and sheep, and "Artena," an arsenical tonic and restorative, for injection.

May & Baker, Ltd., Dagenham, Essex. This firm displayed some recent introductions of special interest to the veterinary profession.

The heavy annual losses from coccidiosis in chickens and turkeys, it is stated, may be reduced to negligible proportions by prompt treatment with "Embazin" brand sulphaquinoxaline sodium. Its advantages are: much greater activity than any other related substance, economy in use, and ease of administration—the small dose in the drinking water is taken readily by all birds, including turkeys.

For the treatment and prevention of blackhead in turkeys, "Entramin" brand 2-amino-5-nitrothiazole is claimed as the most efficacious drug available. "Entramin" contains the active drug in an inert base suitable for incorporation in turkey feeding mash.

"Sagatal" brand pentobarbitone sodium is a medium-acting barbiturate specially prepared for intravenous or, if necessary, intraperitoneal injection to produce anaesthesia in small animals. The dose may be varied to give deep sedation and hypnosis or full surgical anaesthesia.

For many years members of the veterinary profession have shown their recognition of the value of M. & B. sulphonamides for the treatment of various bacterial infections, and of M. & B. antihistaminics for treating allergic conditions, by their extensive use of these drugs, which were also featured on the M. & B. stand.

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Menley & James, Ltd., Coldharbour Lane, London, S.E.5, exhibited three products, two of which appeared for the first time; the other, "Vetiod" ointment, already is well known to the veterinary profession.

"Furacin" Dressing Veterinary.—"Furacin" is the most potent member of an entirely new group of antibacterial substances—the Furans—and is here presented for clinical use in a water-miscible vehicle.

The wide antibacterial range of this preparation includes Gram-negative as well as Gram-positive organisms, it is active in the presence of blood and serum, and bacterial drug-resistance does not develop. Further, bacteria which are or become resistant to sulpha or antibiotic drugs remain susceptible to "Furacin" Dressing Veterinary. It dissolves in pockets of wound exudates, so the active principle reaches all infected areas.

"Furacin" Dressing Veterinary is indicated in the prophylaxis and treatment of superficial mixed infections; extremely good results have been reported from its use in otitis externa.

In cases of superficial infection where itching and pain are prominent, "Furacin" Dressing Veterinary with the addition of 0·5 per cent. butacaine sulphate B.P. is indicated.

"Vetiox" intramammary iodine has an important place in the treatment of mastitis, in both the cow and the goat. It has proved effective against long-standing infections that have persisted in spite of penicillin treatment and clinical trials have shown that it is particularly valuable where there is marked induration of the udder or failure of the milk to return to normal.

The other preparation that was shown was *"Vetiod" ointment* which presents iodine in a completely bland form. Where an effective concentration of iodine in a safe form is required for external use in a wide range of conditions, it is claimed that "Vetiod" is the only really satisfactory answer.

There were displayed on the exhibition stand, photomicrographs that showed clearly that the iodine content of "Vetiod" is uniformly distributed, so that there are no local concentrations to cause irritation, or staining of the animal's coat.

The policy of Menley & James, Ltd., continues to be to advertise their products through professional channels only.

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Minsal Ltd., Northwich, Cheshire. Minsal exhibited their usual range of fully trace elemented mineral supplements for cattle, horses, poultry and pigs and the exhibit of their new type Minsal licks, circular in shape with attractive holders, created considerable interest and promoted much discussion.

The new licks are in fact the powder supplements in brick form and this of course represents a considerable improvement over the old type mineral licks which contain something in the region of 95 per cent. salt.

Four licks were available:—

(a) *Cattle Minsal.*—A fully trace elemented supplement containing 20 per cent. di-calcium phosphate.

(b) *Cattle Minsal* (Magnesium rich).—Differs only from (a) in that it contains an elevated magnesium content and is intended for use in herds susceptible to hypomagnesaemic disorders.

(c) *Cattle Minsal* (High manganese and copper).—Major elements as in (a) but manganese and copper contents elevated. Intended for use in particular cases.

(d) *Minsal T.E.P.* (Trace elemented phosphate).—Contains 65 per cent. di-calcium phosphate and relatively high percentages of trace elements, manganese, copper, cobalt and iodine. Does not contain any added limestone flour.

These new licks will make it possible to provide a fully balanced supplement in brick form and the benefits to be gained are obvious.

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The Mond Nickel Co., Ltd., Sunderland House, Curzon Street, London, W.1. The main purpose of this stand was to give free technical information on the prevention and cure of pining and unthriftiness in sheep and other stock by the administration of cobalt. Publications produced by the Mond Nickel Co., giving general information on pining in sheep, and details of research carried out in the investigation of this disease, were available on the stand. Specimens of cobalt sulphate were shown both in the form of crystals and as a stock solution. The solution carried instructions as to how it should be diluted for administering to sheep as a drench. Samples of various mineral mixes containing cobalt as a trace element were also shown on the stand, and further information was available from the attendants.

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Newton Victor Ltd., 15, Cavendish Place, London, W.1. This year Newton Victor exhibited both their portable and mobile types of X-ray equipment for veterinary use—the well-known "K-5" and "MR-4" units, which have enjoyed such widespread acceptance among practitioners and in veterinary establishments throughout the country as well as overseas. A selection of X-ray accessories and supplies, and a number of interesting veterinary radiographs, also were displayed.

In addition to this radiographic apparatus the firm again showed the "Inductotherm" short-wave diathermy equipment. Veterinary surgeons continue to evince a very lively interest in the therapeutic applications of induced heat-at-depth, and many of them are using the Newton Victor Inductotherm unit with great advantage and success.

The stand was a centre of interest and much information was given upon the firm's veterinary X-ray and electromedical apparatus.

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Reckitt & Colman Ltd., Hull and London (Pharmaceutical Department, Hull). This stand featured the following:—

Dettol Antiseptic—non-poisonous, non-staining, for treating injuries in animals and for the protection of the veterinary surgeon. Dettol is a highly efficient germicide.

Dettol Obstetric Cream—for use in calving, foaling, lambing, etc. Highly germicidal and deodorant.

Dettol Teat and Udder Salve—is recommended for routine use on udders to keep them soft and supple, and as an aid in the prevention of mastitis. It is antiseptic and is destructive of *Streptococcus agalactiae*. It is odourless, and will not taint milk.

Dettol Veterinary Pessaries—are constituted so as to produce an antiseptic mixture which will retain germicidal efficiency even in discharge, pus and blood, without fear of causing irritation. They possess excellent deodorant properties.

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Watson & Sons (*Electro-Medical*) Ltd., East Lane, North Wembley, Middlesex. X-ray apparatus which has proved itself under wartime conditions in the field, is ideal for the hard use likely to be encountered in veterinary practice. Both examples of X-ray equipment shown on this stand were used extensively by the Army Medical Services and have proved very successful in veterinary practice.

Portable Type MX-2 is a robust unit having a high output (80kV at 15mA) adequate for the radiography of small animals and for the less dense parts of horses and cattle. The tube stand, which affords a full range of movement, can be taken apart in a few moments for transport by car.

A larger unit, which has also been used successfully for animal radiography, is the Mobilix mobile apparatus (95kV at 40mA). The tube-stand, transformer and control panel are mounted on a rubber-tyred trolley which can be wheeled into the open as desired.

Photographs were shown on the Watson stand of a new high voltage radiography apparatus recently installed at the Equine Research Station of the Animal Health Trust. This is the most powerful X-ray unit ever to be employed for veterinary work, or indeed for medical diagnostic radiographs, and opens up new possibilities in animal pathology.

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Willington Medicals Ltd., 87, Whitchurch Road, Shrewsbury. The display on this stand illustrated the fact that this firm have a comprehensive range of goods of their own manufacture for general use, and in addition supply most of the specialities of other manufacturers, also instruments. They offer a complete range of sera and vaccines and stock all I.C.I. veterinary preparations.

Four products featured were:—

Elixir Chelidon (*Chelix*) in liquid and tablet form. Surprising results are claimed for success in the treatment of kidney and bladder disorders in large and small animals.

Stomach Powder.—A standard product in wide use.

Iodine Tar Ointment.—A very reliable preparation also having a wide range of uses.

Antiseptic Wound Dressing.—A combination of acriflavine and sulphanilamide in a non-greasy paste. An excellent dressing.

In addition, Willington Medicals carry out a large business in dispensing to practitioners' own private formulae, packing to the directions of veterinary surgeons, with names and addresses on the labels if desired. Specialists in veterinary requirements, they supply the profession only.

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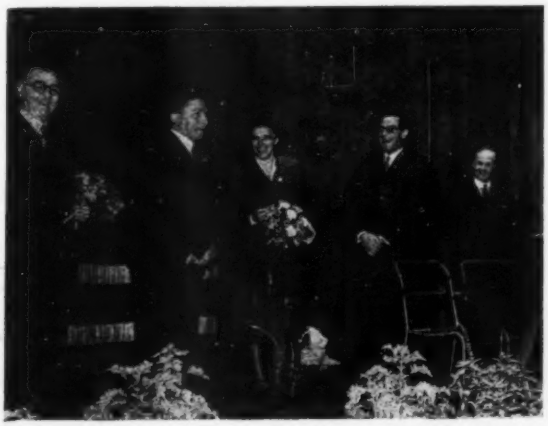
Willows Francis Pharmaceutical Products Ltd., 73-75, Shacklewell Lane, Dalston, E.8. During the 1951 N.V.M.A. Congress at Eastbourne—marked by "Willows" bi-centenary in veterinary medicine—the firm were afforded an opportunity of presenting many products which have long remained firm favourites with the profession.

New preparations which aroused interest and received favourable comment were the new surface anaesthetic "Willothaine" and the most recent treatment for infectious enteritis in all species "Sulphentrin."

Another display of interest consisted of a range of Penotrane products produced by Messrs. Ward Blenkinsopp, for whom they have been nominated as agents, for supply to the veterinary profession.

Also on display was a limited range of instruments and sundries.

Willows "Embryotome," also on view, aroused a great deal of interest and discussion.



Presentation Stage of the Closing Meeting
L. to R.—Major C. J. R. Lawrence,* Mr. and Mrs. S. L. Hignett, the President and Mr. Knight.
*At this moment deputising for Mrs. Lawrence!

THE CLOSING MEETING

(*Adjourned Annual General Meeting*)

Induction of Mr. Alan J. Wright as President

The Adjourned Annual General Meeting (the Closing Meeting of the Congress) was held in the Floral Hall, Winter Garden, Eastbourne, on Saturday morning, September 29th, 1951, with the retiring President, Mr. S. F. J. Hodgman, M.R.C.V.S., in the chair for the first part of the proceedings.

Matters that have arisen during Congress.—The President: This is the last meeting of Congress, and the first item is matters that have arisen during the Congress.

The General Secretary (Mr. F. Knight): So far I have had no matters reported to me that should be brought before this closing meeting of Congress.

Resolutions.—The President: The next item on the agenda is resolutions.

The General Secretary: In the same way, no resolutions have so far been reported to me.

Votes of Thanks

The President: The next item is votes of thanks. I call first on Mr. Hebeler.

Mr. H. F. Hebeler: It is a great privilege to be allowed to propose this vote of thanks, which is to the Mayor and the County Borough of Eastbourne. When one has enjoyed oneself as much as I personally have done, it is very pleasant to be able to thank those responsible for having us here. I think we must all agree that Eastbourne is a very beautiful town with, as His Worship said, a natural dignity which is not seen at all seaside resorts.

The very pleasant atmosphere, the excellent facilities provided by the Borough and, not least, the comfort and excellent service provided by the hotels—and I must mention particularly our headquarters hotel—have all combined to make this a most memorable Congress, at which the high standard of the discussions has been matched by that of the social functions. It gives me great pleasure to propose a vote of thanks to His Worship the Mayor and the Borough Council of Eastbourne.

This vote of thanks, and those that followed, were carried by acclamation.

The President: The next vote of thanks I am going to ask Mr. Graham to propose.

Mr. A. M. Graham: I have great pleasure in proposing a vote of thanks to all those very excellent people who have contributed so much to the more serious side of this Congress. I mean by that the people who have contributed papers and provided the demonstrations and exhibitions. I cannot name them all so I shall endeavour to enumerate them in this way: the readers of papers, the openers of discussions, the Chairmen and recorders and those responsible for the exhibitions and demonstrations.

I venture to say that the papers reached as high a standard at this Congress as those at any other Congress I have ever been at, and I do congratulate the people who read them and those who opened the discussions. We are greatly indebted to them. (Applause.)

The exhibitions and demonstrations were, I think, of an exceptionally high standard. Mr. Gordon Knight's film demonstration given last Tuesday was one of the finest I have ever seen, and I am quite sure everybody here will agree with that. (Hear, hear.) It has been said that perhaps copies of these films will become available for our own film library. I do not know whether I am correct or not in saying this, Sir, but I do hope that will be the case.

Then we had another item in our exhibitions which I as a Ministry man should not say too much about, but at your request I am bringing it up. I refer to the exhibition staged by the Ministry of Agriculture. (Applause.) I think that was a most practical and useful exhibition and we could all have spent many hours very profitably there. We do hope the Ministry will continue to exhibit at our Congresses.

Yesterday's outing to Frant was in my opinion one of the best things of the whole week. The hospitality and kindness we received from the staff, Dr. Montgomerie and Mr. Hignett were wonderful, as was the way they provided for our ladies and everybody connected with this Association. I should also like to thank the demonstrators, Sir. I ask you to accord a very hearty vote of thanks to all those people I have enumerated.

The PRESIDENT : The next vote of thanks I would like to move from the chair. It is to the Sussex and South-Eastern Divisions, and I move it most sincerely.

I first wish to thank the two Presidents, Mr. Hignett and Dr. Montgomerie, and also, of course, all the members of the two Divisions for their delightful hospitality on the eve of this Congress. I also wish to thank them for the assistance given by the members of their Divisions while serving on the Provisional Committee and for the work they have put in in organising this Congress. Particularly do I wish to thank the Chairman, Mr. Matthews. Also, of course, the Secretary and Assistant Secretary, Mr. Hignett and Major Lawrence. Every one of them has put in an enormous amount of work to make this Congress the outstanding success which I think you will agree it has been. (Applause.)

After sending us off so well fortified on Sunday evening last I felt then that they had set a standard which meant that this Congress had got to be a success. We are all very grateful to them and I sincerely hope they derive some pleasure from the knowledge that they have been directly responsible for the Association having had such an extremely happy and profitable time.

I am sure, too, you will wish me to express our grateful thanks to the Ladies' Guild. I should naturally like to mention particularly their President, Mrs. Thomson, the Secretary, Mrs. Wooldridge, and Treasurer, Mrs. Glover. (Applause.) I understand they have collected the sum of £140. (Applause.)

PRESENTATIONS TO THE HON. LOCAL SECRETARIES

I know that I am expressing the wishes of the Presidents of the South-Eastern and the Sussex Divisions, and also that of the Chairman and members of the Provisional Committee, when I say that the amount of good work, advice, tact and kindness displayed by Mr. Hignett and Major Lawrence had to be seen to be believed.

Mr. Hignett and Major Lawrence, on behalf of the Association I wish to thank you and to say how very much we appreciate all you have done. It is the Association's wish that on their behalf I make you a small presentation. (Applause.)

The PRESIDENT then presented a portable wireless set to Mr. Hignett and a bouquet of flowers to Mrs. Hignett, and a tray and set of glasses to Major Lawrence with a bouquet for Mrs. Lawrence, who was not present.

Mr. S. L. HIGNETT : My wife and I are quite overwhelmed by this generous gesture. We did not deserve or expect any material reward. On this particular occasion the duties of the local Secretary have not been particularly onerous because never has there been such an enthusiastic and helpful Provisional Committee. The Chairman has been somewhat of a slave driver—and has stood over us with a toasting fork in one hand and a lash in the other, the whole fortified by a sure knowledge of the Acts and Orders. (Laughter.)

I should like, Sir, to pay a particular tribute to the real local Secretary, Major John Lawrence. (Applause.) He has revelled in all those details without which no Congress can be a success. But I do admit that I shall be very pleased never again to hear his signature tune whenever he met me : " You're in trouble! " (Laughter.)

In working for this Congress we have been a very happy band, and I do thank you most sincerely for this wonderful present. (Applause.)

Major C. J. R. LAWRENCE : If I had realised when I was asked to do this job that it entailed making a speech I am not sure that I should have taken it on ! Making speeches is not in my line. But I should like to express to you, Sir, and to you all my very great appreciation of this presentation you have made to me.

My job has been a particularly easy one, and I have been delighted to act as office boy to my friend Sam ! He used to ring me up, and other people used to ring me up, saying that so-and-so was wanted. To these requests I employed a technique I evolved many years ago—when you are asked to do something, hand it on and tell somebody else to get on with it. That is all I have had to do, Sir.

As you know, there was a certain amount of difficulty in arranging the date and the Provisional Committee were compelled, through circumstances over which they had no control, to select this week for the Congress. At first the local authorities were very difficult but when we decided on a week which fitted in they were most helpful. The Mayor said, " Ask, and you can have it," and the Grand Hotel said the same thing. It has been very easy indeed, and I really mean that.

I am pleased to have made some small contribution to make this Congress a success, and if you have enjoyed the past week as much as I have then you must have had a very happy week indeed in Eastbourne, and no one is more pleased than I am.

I thank you very much for this most delightful presentation which will be a very happy souvenir. (Applause.)

The PRESIDENT : Our two Secretaries have both been very modest, but you know very well of the enormous amount of work they have put in.

TRIBUTES FROM OVERSEAS DELEGATES AND REPRESENTATIVES

I promised at the beginning of the Congress (proceeded the President) to give visitors a chance to convey any messages they might have from their Associations, and I now afford that opportunity.

Dr. C. S. M. HOPKIRK : I have been asked by the High Commissioner for New Zealand and the New Zealand Veterinary Association to bring you their greetings and to thank you for asking them to send a representative to this Congress.

The New Zealand Veterinary Association, as you know, is affiliated to this Association, and there are quite a number of your colleagues in New Zealand who always like to get the news of the way in which this Congress is being run, and it is my job to report on that. The Congress has, of course, been a success. It has been a remarkable success.

There are a number of reasons for this, the first I think being the hard work of the organisers. You have made your presentations to them, and I think they have richly deserved them. Then there have been the excellent papers, which have been mentioned this morning, and with regard to that the fact that we have now only one opener has I think been

a useful innovation. It has given more time for discussion, and the discussions have been really worth while.

The social affairs have been really excellent. They have been wonderful because of the ladies: I do not think one can have seen such a galaxy of charm for a long time. (Applause.)

Another reason for the success of the Congress is the way in which Mr. Hodgman, with his wife, has graced the position of the President of this Association. (Applause.) I think we can claim that John Hodgman has been a wonderful President. I met his wife for the first time the other evening and I wanted to know where he had been hiding her away. I could not understand why he had been hiding such a gracious woman and, as far as I recollect, had not brought her to Congress before.

I should like to say one final thing with regard to the Golf Cup. I have no intention of letting the President win it next year, provided I am in this country! (Applause.)

Mr. P. G. Malkani: It has been a great pleasure for me to be with you again. This is my second attendance at Congress and I have had a happy reunion with old friends I met at Southport. I have made new contacts, seen new faces and, incidentally, read new hands, and learnt a lot! (Laughter.)

I must say that I have been very interested in the papers. Their standard has been very high and I am sure that when they are published they will evoke much more discussion in writing. I need not tell you how much I have enjoyed the social functions. I have shown that.

I have been rather amused at the band at the Grand Hotel regularly playing a favourite tune of mine, "I'll See You Again," and with that refrain I thank you very much. (Applause.)

Mr. R. H. Heywood: I have the rather uncomfortable feeling of being guilty of false pretences! This is the 14th Congress at which I have enjoyed the generous hospitality of your Association, and it seems to me that however welcome he was originally, a guest who outstays his initial welcome by a good many years must present a rather ticklish problem. On this occasion I console myself with the thought that I am the bearer of greetings from the Australian Veterinary Association whom, in addition to the High Commissioner for Australia, I have the honour of representing at this Congress. The Association also desire me to extend their best wishes for the success of your Congress, and I find myself in the happy position of being able to tell them that their fondest wishes have been amply fulfilled.

It has indeed been a most successful Congress. As has already been said, the papers were of a very high standard and if it will not be regarded as a presumption on my part, I will add that the standard of the discussions which followed the papers was equally high. I shall have much pleasure in informing the Australian Veterinary Association accordingly.

If I might be allowed to conclude on a personal note it would be to say that I hope when arrangements are being made for Harrogate—and perhaps for Aberdeen!—my welcome will not be considered worn out. (Applause.)

Dr. de Vries: I am looking for some words to express the happiness of my wife and myself during our attendance at your magnificent Congress. I thought it would be very difficult for us in a foreign country, but we have been pleased in the highest degree. We are grateful not only for the social functions which we enjoyed so much but especially for what you have taught us at your excellent meetings and demonstrations. I can tell you that when I go back I shall report on everything I have heard here and I am sure that the report in the *Record* will be read with the greatest interest.

I think you are to-day an outstanding country in veterinary science, and that contact between the veterinary associations of the world is a very good thing. My wife and I have been delighted to be here, and we thank you once more for the most wonderful time we have had in your country this week. (Applause.)

Mr. G. Freudenthal (R.V.C., London): After the eloquent words we have heard from eminent delegates I rise with the feeling that I am quite out of my depth and I beg you to forgive me for prolonging the speeches, but I promise to be brief.

On behalf of the students who are fortunate enough to have attended this 69th Congress of your Association I should like to express our thanks, first to the President and the organisers, for allowing us the privilege of listening to your papers and discussions and participating in the enjoyable social functions, and secondly to all of you who, by your friendly advice and acceptance of us in your midst, made us feel at home with you as your future colleagues. We are grateful to the representatives of exhibiting firms who have so patiently answered our questions.

The President of the Association of Veterinary Students, Mr. Morris, who was here earlier in the week, has asked me to express his regrets at not being present to-day and to convey our gratitude to those who took students for extra mural study in their vacation. We are aware that it is an old-established custom but this should not blind us to the gratitude we owe. May I also include our thanks to those who arranged for us to visit some public research institutions while still at college.

Finally, Mr. President, we thank most sincerely the members here, and you and Mrs. Hodgman in particular, for making us feel so welcome and for giving us this opportunity of meeting you all. The memory of this week will lighten the burden of on-coming examinations and we look forward to the time when we may attend the Congress as your fellow members. (Applause.)

The President: Thank you, Mr. Freudenthal; we do indeed welcome student participation in our Congresses. I would ask you all to convey to your Associations the very good wishes of the N.V.M.A. I thank you for all the kind things you have said this morning. We are delighted that you have enjoyed yourselves and have done what I asked you to do at the opening of Congress, to behave as one of us.

Induction of New President

The President: We now come to the next item on the agenda, and the most important one, and that is the induction of your new President. Before carrying this out I should like to say just a few words.

When I took over this office I promised you that I would work to the best of my ability to foster the interests of this Association. Well, ladies and gentlemen, I have done my best and in some ways have been successful but, like other Presidents, I am afraid I have left many things undone for my successor to tie up.

I should like to take this opportunity of saying how very grateful I am to all the officers and to thank them for their help and loyal support. My thanks also go to the Chairmen of Committees and Sub-Committees and their members and to those other members of the Association who have done so much during the year in the preparation of memoranda and material for *The Veterinary Record* and the production of handbooks and articles for publication. I do not think the ordinary members are really aware of the amount of work which is done by the few who work for so many. On behalf

of the Association I should like to thank all those ladies anp gentlemen for what they have done and also for the real help and consideration I personally have received from so many of them.

I was told by my senior Vice-President when I was elected to this chair that to be a President of this Association was not only an honour but a most memorable experience. I most heartily agree with this view and I sincerely hope that when I eventually reach obscurity as an ordinary member again I shall at least continue to keep as my friends those who have helped me during my term of office.

I must thank the organisation for which I work for the very generous amount of time they have allowed me for N.V.M.A. business and I should also like to thank, although they are not present, my colleagues for taking the extra burden I have put on their shoulders during my absence.

To you, Alan, it is hardly necessary for me to give my assurance of help, and that of your other officers, should you need it during your term of office. I have striven to keep you well up to date in all matters concerning this Association and I feel fully confident that I am placing the reins of office in hands that will use them for wise and steadfast guidance.

In putting this Gown and Chain of Office on your shoulders, I wish you the same loyal support which it has been my happy lot to enjoy and I wish you a very happy year of office. Good luck to you, Mr. President ! (Loud and sustained applause.)

Mr. A. J. WRIGHT, upon his induction to the office of President, took the chair, and said : I am deeply moved and honoured by the sincere and generous way you have conducted and received my induction as your new President. I thank you, Sir, for the many kind things you have said about me and for the often unwarranted flattery you have bestowed on me.

I fully realise the responsibility and work which now falls on my shoulders and also I am only too conscious of the narrow extent and limitations of my abilities to undertake these duties. I accepted this honour and office only because I knew that I had at my elbow a great team of officers and officials and all you loyal members to help, guide and advise me in my action and duties as President. Sir, ladies and gentlemen, I thank you. (Applause.)

Now, Sir, it is my very great privilege and pleasure to try to convey to you the great appreciation and deep gratitude of all the members of the " National " for your excellent leadership as President during the last year and for the magnificent and efficient manner in which you have shouldered and carried out your duties as our leader. (Applause.)

I can assure you, ladies and gentlemen, that many of you in the body of this hall have not the slightest idea of the tremendous amount of work John Hodgman has given to the affairs of this Association. Always, no matter when or where, he has been happy and ready to conduct the business of the Association and promote and further the interests of our profession. Whenever and wherever you met John Hodgman you were always received with a welcoming smile. He is a man of cheerful and charming personality endowed with an abundance of tact and diplomacy but always ready to fight for the interests of the veterinary profession and always doing his utmost to create and foster closer relations between this Association and other outside bodies. I only hope that I can possess and exhibit some of his tact, diplomacy and cheerfulness during my year of office.

I know, John, that some of your great ideas and efforts have not yet come to full fruition, but I also realise very forcibly that you have planted many good and sound seeds which are growing and flourishing and will soon be bearing fruit. You can rest assured in the knowledge that in your the N.V.M.A. has had, and now has, a good and faithful servant.

We all, therefore, offer you, Sir, our sincere thanks and gratitude for your unstinting and untiring efforts on behalf of this Association and the profession and for the capable and efficient way in which you have performed your presidential duties, and we all wish you good luck, God-speed and many happy years of association with us.

I cannot close my remarks without extending our sincere thanks and appreciation to your wife, who I know has been such a great source of encouragement and support to you. (Applause.) I am certain that on many occasions she must have thought she was a widow ! and she has definitely earned our sympathy and thanks.

Also I should like on behalf of the Association, in addition to your own remarks, Sir, to extend to your station staff our appreciation and gratitude, for it is only by their cheerful willingness to undertake the extra duties put upon them and the co-operation you have received from them that you have been able to carry out your official duties in such an efficient manner.

Ladies and gentlemen, I am sure you will join me in acknowledging the debt we owe to our retiring President. (Continued applause.)

Mr. HODGMAN : I thank you most sincerely for all the very kind things you have said, Mr. President, and you, ladies and gentlemen, for the way in which you received them. Frankly, I have enjoyed my term of office. It has been a great experience and an education and I have learnt a great deal about the N.V.M.A., though I do feel now that I have perhaps had enough. May I also take this opportunity of thanking my wife and of saying that we are now looking forward to making one another's acquaintance again ! (Laughter.) May I also, with your permission, Sir, do something which is so often forgotten—thank our late senior Vice-President. (Applause.) He blushed last year at all the kind things that were said about him, as I am doing to-day, and so I will try not to embarrass him too much but just say thank you for all his help and support. He is a good fighter and we thank him very much for all he has done for us. (Applause.)

DECLARATION OF CLOSE OF CONGRESS

The PRESIDENT : I am afraid that my first duty as your new President is rather a sad one, to declare this 69th Congress closed. I should like to remind you that our next Congress is being held in Harrogate next September, the date having been tentatively fixed at the 8th to 13th. I sincerely hope that you will all find your way to Harrogate to support us and have a good time again there. Thank you.

Ladies and gentlemen, I formally close the meeting.

ROYAL SOCIETY MEDALS FOR 1951

The following awards of meda's have been made by the President and the Council of the Royal Society :—

Copley Medal to Professor D. Keilin, Quick Professor of Biology and Director of the Molteno Institute, University of Cambridge, for his fundamental researches in the fields of protozoology, entomology and the biochemistry of enzymes.

Davy Medal to Sir Eric Rideal, Professor of Chemistry in King's College, University of London, for his distinguished contributions to the subject of surface chemistry.

Hughes Medal to Professor H. A. Kramers, Professor of Theoretical Physics in the Technical University, Delft, for his distinguished work on the quantum theory, particularly its application to the optical and magnetic properties of matter.

The King has approved recommendations made by the Council of the Royal Society for the award of Royal Medals for the current year to Sir Howard Florey, F.R.S., for his contributions to pathology by his studies of the functions of mucin and by his work on penicillin and other antibiotics; and to Sir Ian Heilbron, F.R.S., for his contributions to organic chemistry, notably in the field of vitamin A and polyene synthesis.

VICTORIA VETERINARY BENEVOLENT FUND
LADIES' GUILD

ANNUAL GENERAL MEETING

The 20th annual general meeting of the Ladies' Guild was held in the Grand Hotel, Eastbourne, on September 27th, 1951.

The President, Mrs. Alex. Thomson, welcomed the following ladies: Mesdames Anderson, Bruford, Barron, Hughes Ellis, Forgrave, Glover, Hebeler, Hill-Owens, Hodgman, Howie, Ingram, Kennedy, Makinson, Motton, I. Matthews, M. Matthews, Oliver, Reynolds, Stewart, Sambrook, Thomas, Turnbull, M. E. Wright, E. Wright, G. H. Wooldridge and E. B. Wooldridge.

The Hon. Treasurer reported that following the success of last year, this had been an even better one ; it had been indeed an inspiring two years, and Scotland had an excellent record.

The meeting unanimously regretted the resignation of its Hon. Secretary, Mrs. E. B. Wooldridge, who has for the past three or four years given excellent and untiring work; it can truly be said that she has kept the tradition of our motto:—

" Our duties are to do good expecting nothing again "—(Chas. Lamb).

Election of Officers for 1951-52

The following ladies were then elected to the various offices for 1951-52.

President.—Mrs. M. E. Wright.
Vice-President.—Mrs. Alex. Thomson.
Hon. Secretary.—Mrs. Hill-Owens.
Hon. Treasurer.—Mrs. R. E. Glover.
Committee.—Mesdames Bruford, Barrett, King, Matthews, Montgomerie.
Hon. Auditor.—Professor J. G. Wright.

Address.—The President then spoke on " The American International Women's Auxiliary Veterinary Profession." After a long and animated discussion the ladies decided that Mrs. E. B. Wooldridge should write to Mrs. Bott and express the view of the Ladies' Guild, that, whilst reciprocating their felicitations and good will, we feel that no other organisation is necessary here.

The meeting closed with a hearty vote of thanks to Mrs. Alex. Thomson for her excellent work as the President and for so ably taking the chair.

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We thank everyone for their past services and trust they will continue. May we ask those districts in Great Britain which have not so far established a local branch of the Guild, seriously to consider doing so? Next year will be the 21st annual general meeting—*our coming of age*. We hope to celebrate this in some special manner which may become a landmark in our history: we await with interest suggestions from all ladies throughout the profession as to the form this shall take.

Finally, members are reminded that the President, Mrs. Glover and Mrs. E. B. Wooldridge are members of the V.V.B.F. Council and have been elected by the parent body to express the appreciation of work done.

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Hon. Treasurer's Report

The following sums of money were among the amounts received:—

	£	s.	d.
Irish Branch	96	0	0
Northern Ireland	13	7	6
North Wales	40	0	0
South Wales	75	0	0
Lancashire and Cheshire including:—			
Bridge Drive by Mrs. J. Adamson £15 0 0			
Draw by Mrs. J. C. Baird ... £25 5 0	55	12	0
Mrs. Hill-Owens	111	12	6
Mrs. P. J. Simpson	9	15	10
Mrs. G. H. Wooldridge	8	16	0
Mrs. W. R. Wooldridge	8	14	6
Proceeds of Dance and Raffle at Cardiff ...	177	6	6
Scottish Branch Subscriptions and Donations	91	11	0
Garden Fête, Scottish Metropolitan Division, organised by Mrs. Mitchell	70	2	3
Dance, Ayrshire, organised by Mrs. Stewart	101	8	0
Dance, Dumfries and Galloway, organised by Mrs. Sangster	65	4	6
Dance, Penrith, organised by Mrs. McReid (Carlisle)	85	0	0
Sale of Tomatoes, Moredun Institute	1	7	0
	£1,010	17	1

It was unanimously decided to allocate the following sums:—

	£	s.	d.
V.V.B.F. Relief Current Year	300	0	0
V.V.B.F. Christmas and Summer Gift Fund	601	8	0
National Veterinary Benevolent and Mutual Defence Society Xmas Fund	100	0	0
	£1,001	8	0

QUESTIONS IN PARLIAMENT

Horses (Slaughter)

Mr. Russell (Nov. 19th) asked the Minister of Food if he will make a Regulation forbidding the slaughter of horses for sale for human consumption in any place other than a public abattoir or licensed private slaughterhouse, except in cases of accident, illness or other emergency as recommended by the Departmental Committee on Export and Slaughter of Horses.

Major Lloyd George: It is an offence under the Food and Drugs Act to slaughter horses as a business except in licensed premises. I am considering the extension of the provisions of the Public Health (Meat) Regulations so as to require notice to be given to the local authority when horses are to be slaughtered for human consumption.

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Calves for Slaughter (Marketing)

Lieut.-Colonel Lockwood (Nov. 19th) asked the Minister of Food when he will have completed negotiations with the National Farmers' Union with a view to ensuring that calves destined for slaughter will go direct to the nearest slaughterhouse instead of going to the local market.

Major Lloyd George: I am unaware of the negotiations to which my hon. and gallant friend refers. The present arrangements for the marketing of calves for slaughter, including those for avoiding cruelty to very young animals, are based on agreements with the National Farmers' Union and appear to be working satisfactorily.

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Flour (Agene Process)

Dr. Stross (Nov. 19th) asked the Minister of Food whether he has noted that every animal of every species, fed with methionine sulphoximine, the active principle of agenised flour, has shown severe toxic symptoms; and whether he will take this further evidence into consideration, and prohibit the agene process for improving flour as a matter of urgent public interest.

Major Lloyd George: I am advised that, while pure methionine sulphoximine has caused toxic symptoms in the six animal species to which it has been fed in relatively large amounts, it has not caused such symptoms when ingested at the levels at which it is present in a diet containing normal quantities of agenised flour. Nevertheless, as I stated in my reply to the hon. Member for Huntingdon (Mr. Renton) on November 12th, it has been decided that the agene treatment of flour should be discontinued as soon as a suitable substitute has been agreed on.

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Animal Poisoning (Use of Strychnine)

Mr. Janner (November 21st) asked the Secretary of State for the Home Department if he will prohibit by Regulation the use of strychnine for poisoning animals.

Mr. Llewellyn: My right hon. Friend has no power to prohibit by Regulation the use of strychnine for poisoning animals, but its sale for this purpose is already prohibited by the Poisons Rules except that it may be obtained for poisoning seals and moles on the production of a written authority. The Committee on Cruelty to Wild Animals recommended that this relaxation of the rules shou'd be reviewed, and the Committee's recommendations are being examined.

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Horse Population

Mr. Peter Freeman (November 21st) asked the Minister of Agriculture what is the present population of horses; and what were the comparable figures in 1900 and 1925.

Sir. T. Dugdale: The only returns collected are of horses on agricultural holdings at the date of the June census. The figures are as follow:—

England and Wales

	1900	1925	1951 (*a*)
	'000	'000	'000
Horses used for agricultural purposes—			
Mares (including those kept for breeding)	925·0	773·2	145·8
Geldings			102·1
Unbroken horses one year old and over—			
Light	265·1	143·7	15·3
Heavy			8·7
Horses under one year old—			
Light	115·4	44·9	5·6
Heavy			3·0
Stallions for service—			
Light	(*b*)	4·8	1·0
Heavy	(*b*)		0·6
All other horses	(*b*)	197·6	82·3
Total	1,305·6	1,164·2	364·4

(*a*) Provisional.
(*b*) Not separately collected.

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Sheep Worrying by Dogs

Mr. T. W. Jones (November 22nd) asked the Minister of Agriculture if his attention has been drawn to the prevalence of sheep worrying by straying dogs in many parts of North Wales; and what steps he proposes to take to alleviate the position.

Sir T. Dugdale: I am aware that in North Wales as in other parts of the country a number of cases of sheep worrying by dogs occur. The National Farmers' Union have recently put forward suggestions for dea'ing with this matter and those suggestions are at present receiving careful consideration.

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Foot-and-Mouth Disease

Mr. Hurd (November 22nd) asked the Minister of Agriculture if he will make a statement on the recent outbreaks of foot-and-mouth disease and the probable sources of infection.

Sir T. Dugdale: The first outbreak of the present series was confirmed in the East Riding of Yorkshire on November 14th. Up to this morning 24 outbreaks had been confirmed, most of them near the east coast of England from Yorkshire to Essex.

Infected stock and contacts have been slaughtered and the usual infected area restrictions have been imposed in the vicinity of outbreaks. In addition, because of the large number of initial outbreaks and the risk that the disease may be spreading to other areas o. Great Britain, practically the whole of Eastern England from Yorkshire to the English Channel has been made a "controlled area." The movement of susceptible animals within the area is restricted and movement out of the area is not permitted.

As regards the source of infection, experience in previous years has shown that a high incidence of the disease on the Continent at this time of year is usually followed by outbreaks along the east and south coast of this country. There has been recently a very rapid increase in the incidence of the disease in Western Germany, Denmark, the Netherlands, Belgium and France, and the information we have at present suggests that the disease has been introduced into this country from the Continent, probably through the agency of migrating birds.

[The course of the disease in Europe is shown in the following record of outbreaks since June:—

	Sept.	*Oct.*	*Nov.* (2 *wks.*)
W. Germany	22,881	15,128	54,751
Denmark	55	1,008	2,900
Netherlands	109	3,455	4,866
Belgium	47	521	933
France	1,397	496	5,633]

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Fowl Pest (Egg Boxes)

Mr. Richard Fort (November 22nd) asked the Minister of Agriculture if he will take steps to compel the disinfection of egg boxes by fumigation as a means of preventing the spread of fowl pest.

Sir T. Dugdale: My veterinary officers do not consider that egg boxes have been a material factor in the spread of fowl pest, and I am advised that it is not necessary at present to make it obligatory for all egg boxes to be fumigated as a routine measure. We should not hesitate to require the fumigation of egg boxes either over the whole country or in an area if we thought it necessary.

Mr. Fort: Have the veterinary officers of my right hon. and gallant Friend's Department discovered all the methods by which fowl pest is carried from farm to farm so as definitely to exclude it being carried by egg boxes?

Sir T. Dugdale: In Lancashire, in which my hon. Friend is particularly interested, the evidence is that egg boxes are not helping to spread the disease at the moment, but it is the practice of egg packing stations in the area to destroy any egg boxes which arrive from premises on which is has been reported fowl pest is suspected to exist.

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Rabbits (Trapping)

Mr. Hastings (November 22nd) asked the Minister of Agriculture whether his attention has been called to the large number of rabbits that reach the markets with their legs lacerated by traps; and whether he will institute an enquiry as to the extent of such cruelty and the means by which it can be abated.

Sir T. Dugdale: The answer to the first part of the Question is "Yes, Sir." In reply to the second part I would refer the hon. Member to the report of the enquiry recently conducted by the Committee on Cruelty to Wild Animals, whose report is being considered by the Government.

Mr. Hastings: Will the right hon. and gallant Gentleman give careful consideration to the desirability of introducing legislation to prohibit the use of gin traps, which do much of the damage that I have described?

Sir T. Dugdale: This question has been given very careful consideration, and experiments are now taking place to ascertain the suitability of an alternative trap.

Mr. Hastings: Is the right hon. and gallant Gentleman aware that these experiments have been going on for many years and that the results have been insufficient? Will he accelerate the experiments in which he is now engaged?

Sir T. Dugdale: Yes, Sir, the experiments have not been proved entirely satisfactory.

Last January a sub-committee of the Food Standards Committee was appointed to review the Public Health (Preservatives, etc., in Food) Regulations. The sub-committee proposes to issue separate reports dealing with anti-oxidants, anti-mould agents, solvents, and emulsifying (including stabilising, anti-staling, and foaming) agents, as well as preservatives and colouring matters. Information, particularly on biochemical, physiological and toxicological aspects, would be welcomed by the sub-committee, and should be sent to its Secretary at the Ministry of Food, Food Standards and Labelling Division, 47, Portman Square, London, W.1.

NOTES AND NEWS

Diary of Events

Dec. 5th.—First Meeting Provisional Committee, N.V.M.A., Congress, 1952, Municipal Offices, Harrogate, 2.45 p.m.
Dec. 6th.—Meeting of the Central Veterinary Society at the Royal Veterinary College, N.W.1, 6 p.m.
Dec. 7th.—Meeting of N.V.M.A. Overseas Services Committee, 36, Gordon Square, W.C.1, 11 a.m.
Dec. 7th.—Meeting of the South Wales Division, N.V.M.A., at Cardiff (The Park Hotel), 11 a.m.
Dec. 10th.—Meeting of the Southern Counties Division, N.V.M.A., at Southampton (Polygon Hotel), 6 p.m.
Dec. 12th.—Meetings of the Editorial Committee, N.V.M.A., at 36, Gordon Square, W.C.1: Executive, 2 p.m.; Main Committee, 3.30 p.m.
Dec. 13th.—Meeting of the Society of Women Veterinary Surgeons, at the Royal Veterinary College, N.W.1, 6 p.m.
Dec. 14th.—Meeting of the Sussex Division, N.V.M.A., at Brighton (The Old Ship Hotel), 2.30 p.m.
Dec. 19th.—Meeting of the Lancashire Division, N.V.M.A., at Liverpool (School of Tropical Medicine, Pembroke Place), 2.30 p.m.

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Emergency Assistance Scheme for Single-handed Veterinary Surgeons in Practice

The Home Appointments Committee of the Association has for some time been considering ways and means of giving more help to those requiring qualified assistants in an emergency.

After consulting Divisions, it was found that many of them were willing to co-operate with certain provisos: (a) that the assistant being sent to help should not have to go too far away; (b) that he should go for only a few days; (c) that the principal agreeing to help in this scheme should not be expected to do so if, at the time of asking, it was out of the question for him.

The Council of the Association has accordingly approved the possibility of working such an arrangement from headquarters and is notifying Divisions of this. Members interested are now asked to send their names either to the Hon. Secretary of their local N.V.M.A. Division, or direct to the General Secretary, so that they can be added to this proposed register.

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Calfhood Vaccination Scheme

In the September 15th, 1951, issue of *The Veterinary Record* (page 600) we published a Ministry of Agriculture Press notice concerning the above scheme under the heading, "Vaccination against contagious abortion with S.19." The object of this was to give greater publicity to the value of calfhood vaccinations.

Owing to the reduction which was made early this year in the number of veterinary inspections in non-designated herds in England and Wales, the opportunities for carrying out routine calf vaccinations in such herds have decreased.

The Veterinary State Medicine Committee of the Association felt somewhat concerned about the possible reduction in the number of calves vaccinated, and as a result the above-mentioned publicity was given to the scheme. The Committee and Council of the Association urge members in practice to take every opportunity to encourage their clients to take advantage of and continue to participate in the scheme, particularly those owning non-designated herds. It is hoped that all members will co-operate fully in this respect.

Control of Distribution of Veterinary Products

At a recent meeting of representatives of the Royal College of Veterinary Surgeons, the National Veterinary Medical Association, the British Medical Association and the Pharmaceutical Society of Great Britain, called to discuss the control of veterinary biological and allied products, it was unanimously agreed that such control need not include the following products which would therefore be made freely available to the public:

Blackleg vaccine, aggressin and serum.

Preparations of synthetic oestrogens used for the chemical caponisation of poultry.

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UNIVERSITY OF LONDON

Representation on Council, R.C.V.S.

At their meeting on November 21st, 1951, the Senate of the University of London appointed as their representative on the Council, R.C.V.S., in place of the late Mr. J. B. Hunter, C.B.E., M.C., M.A., M.CH., F.R.C.S., Mr. P. H. Mitchiner, C.B., C.B.E., T.D., M.D., M.S., F.R.C.S., for the remainder of the period for which Mr. Hunter had been appointed and which terminates at the annual general meeting in 1953. The other representative of the University of London on the Council, R.C.V.S., is Professor J. B. Buxton, Principal of the Royal Veterinary College and Hospital, which has recently become a school of the University of London.

Mr. Mitchiner has had a distinguished career, being educated at Reigate and at St. Thomas's Hospital. He obtained the M.B. of the University with the gold medal and then proceeded both to the Doctorate of Medicine and to the Mastership in Surgery. He is a Fellow of the Royal College of Surgeons of England.

Mr. Mitchiner is now Consulting Surgeon at St. Thomas's and is also Honorary Surgeon to His Majesty the King. Besides being a member of the Senate of the University of London, he is a Vice-President and Councillor of the Royal College of Surgeons.

He had a distinguished career during the Great War of 1914-18, when he was attached to the Serbian Army at Salonica and received Serbian and Russian decorations. He now holds the rank of Major-General and was awarded the Territorial decoration in 1926. He was further appointed a Commander of the British Empire in 1938 and a Commander of the Bath in 1944. He is also Deputy Lieutenant for the County of London.

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PERSONAL

Births.—Dring.—On November 19th, 1951, at the Battle Hospital, Reading, to Marjorie, wife of J. C. Dring, M.R.C.V.S., a daughter—Judith Lindsey.

Lloyd.—On November 21st, 1951, at Carmarthen Maternity Unit, to Dilys, wife of Huw G. Lloyd, M.R.C.V.S., a son.

Marriages.—Dunlop—Nimmo.—On November 1st, 1951, at St. Andrew's Kirk Manse, Nassau, Bahamas, by the Rev. J. H. Poole, James C. M. Dunlop, M.R.C.V.S., elder son of Mr. Hugh C. Dunlop, Earlspark Avenue, Newlands, Glasgow, and the late Mrs. Dunlop, to Dorothea Nimmo, youngest daughter of Mr. and Mrs. S. A. Knowles, Nassau, Bahamas.

Hamilton—Lee White.—On November 22nd, 1951, at West Parley Parish Church, Ferndown, Alexander H. A. Hamilton, of the Colonial Veterinary Services, Nigeria, to Audrey Lee White.

Harris—Street.—On Saturday, September 29th, 1951, at All Saints' Church, Hursley, Nr. Winchester, Kenneth Alleyn Harris, M.R.C.V.S., to Rosemary Street.

Forthcoming Marriage.—Caspari—Davis.—The engagement is announced between Ernest Ludwig Caspari, of "Whyteleafe," Leatherhead, Surrey, and Margaret Joan Davis, niece of Mr. Nevill S. King, M.R.C.V.S., of the same address.

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Mr. A. D. Bird has been appointed Press Officer of the Ministry of Agriculture and Fisheries in succession to Mr. F. H. Lancum, M.B.E., who has retired.

R.C.V.S. OBITUARY

McLINDEN, James McSevney, M.R.C.V.S., N.D.A., 53, Eastgate Street, Stafford. Graduated Glasgow, July 21st, 1923. Died September 17th, 1951; aged 56 years.

MORFORD, Rupert, M.R.C.V.S., of Shepton Mallet, Somerset. Graduated London, July 16th, 1902. Died at Bath (in hospital, after an operation); aged 71 years.

VINCENT, Philip, 33, Sackville Road, Hove, Sussex. Graduated London, January 4th, 1877. Died November 17th, 1951; aged 96 years.

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Mr. PHILIP VINCENT, M.R.C.V.S.

We deeply regret to record the death, which took place in hospital at Brighton on Saturday, November 17th, of Mr. Philip Vincent, of Hove, who pursued his profession there until quite recently and was the o'dest veterinary surgeon in practice, while the fact of his graduation from the London College in 1877 made him also head of the honoured list "*Chirurgorum Veterinariorum Collegii Regii Seniores.*"

Born in Essex in 1854, Philip Vincent was educated at Rome House School, Chatham, subsequently following his father into the veterinary profession. For many years he was Veterinary Inspector for a large district in Essex, and during the first world war was Veterinary Officer at Shoeburyness.

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GENERAL OBITUARY

Professor Philip A. Hawkins

Mr. R. P. LEE, M.R.C.V.S., of Glasnevin, Dublin, writes: "Those of your readers who had the privilege of knowing Philip A. Hawkins, A.B., M.A., D.V.M., Associate Professor of Parasitology at Michigan State College, U.S.A., will be grieved to learn of his untimely death, which occurred on October 30th, at Delhi, India. Professor Hawkins, who had been spending study leave in India, contracted poliomyelitis and died after a very short illness.

"Although Professor Hawkins was still in his early thirties at the time of his death he had already attained an outstanding position in the field of veterinary parasitology. He is probably more widely known by your readers as joint author with Banner Bill Morgan of two recent text-books entitled "Veterinary Helminthology" and "Veterinary Protozoology."

"It will be recalled that Dr. Morgan died a little over a year ago. This tragic coincidence has deprived the veterinary profession throughout the world of two brilliant workers who contributed so much in the past and from whom much more would have been forthcoming had they been spared.

"Professor Hawkins is survived by his widow and two young sons."

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ADDRESSES OF DISEASE-INFECTED PREMISES

The list given below indicates, first, the county in which are situated the premises on which disease has been confirmed, followed by the postal address and date of outbreak.

ANTHRAX:

Dumfriesshire.—Hightown of Craigs Farm, Craigs Road, Dumfries (Nov. 17th).

Kent.—Bow'ey Farm, Sandway, Maidstone, Kent (Nov. 17th).

Northants.—The Meadows, Irthlingborough, Wellingborough (Nov. 22nd).

Perthshire.—Ardgarth Farm, Glendoick, Glencarse, Perth (Nov. 22nd).

Yorks (W.R.).—Moorcroft Farm, Lexmoor Road, Golcar, Huddersfield (Nov. 22nd).

FOOT-AND-MOUTH DISEASE:

Berks.—Home Farm, Foliejohn Park, Winkfield, Windsor (Nov. 21st).

Essex.—Wellwich Farm, St. Osyth, Clacton-on-Sea (Nov. 22nd).

Norfolk.—Manor Farm, Moulton St. Michael, Norwich (Nov. 19th); Browick Ha'l, Wymondham (Nov. 20th); Brace Farm, Alburgh, Harleston (Nov. 21st).

Suffolk (East).—Turnpike Farm, Shadingfield, Beccles (Nov. 20th); M.M.B. Cattle Breeding Centre, Ringsfield Road, Beccles (Nov. 22nd).

Yorks (E.R.).—Low Farm, Thearne, Beverley (Nov. 20th); Rectory Farm, Rillington, Malton (Nov. 22nd).

FOWL PEST:

Essex.—445, Ipswich Road, Colchester (Nov. 22nd).

Lancashire.—All at Preston: Gills Farm, Old Liverpool Road and Dent Dale and Barnfield Poultry Farm, Liverpool Road, Much Hoole; Greystones, Morlcop and Southview, Bretherton; Shirley Lane, Longton (Nov. 20th); Brookside, Chapel Lane, New Longton; Daisy Nook, Marsh Lane, Longton; The Laurels, Long Moss Lane, New Longton; Church House Farm, Bretherton; Goose Green Farm, Moss House, Lane, Much Hoole (Nov. 21st); Wood Bungalow, Hall Lane, Longton; Woodfield, Liverpool Road, Hutton; Tarbert Villa, Marsh Lane, Longton; Towngate Farm, Mawdesley, Ormskirk (Nov. 22nd).

Surrey.—1, Couchmere Cottages, Littleworth Road, Esher (Nov. 22nd).

SWINE FEVER:

Beds.—Putnoe Lane, Bedford (Nov. 20th).

Bucks.—5, The Greenway, Chalvey; Dovecote Farm, Shenley, Brook End, Bletchley (Nov. 23rd).

Cheshire.—Norris Hill Farm, Heaton Norris (Nov. 22nd).

Essex.—Lyndale, Brook Street, Brentwood (Nov. 22nd).

Herts.—Little Green Farm, Pirton, Hitchin (Nov. 19th).

Hunts.—Harper's Drove, The Heights, Ramsey (Nov. 19th); The Limes, Little Stukeley (Nov. 23rd).

I. of Ely.—The Bungalow, Euxmoor Drove, Christchurch (Nov. (20th).

Kent.—Minnis Farm, Worth; Litlebrook Farm, Stone, Dartford (Nov. 22nd).

Lancs.—Orford Farm, School Road, W. Warrington (Nov. 20th).

Lincs (Kesteven).—Manor Farm, Graby, Sleaford (Nov. 21st).

Lincs (Lindsey).—Manor Farm, Lissington, Wickenby; Sturton Stoop, Gt. Sturton, Horncastle (Nov. 19th); Jubilee Farm, Kirkby-on-Bain (Nov. 20th); Low Baumber, Horncastle; Dogdyke Road, Coningsby (Nov. 22nd).

Middlesex.—57, West Ella Road, Hounslow (Nov. 19th); The Thorne, Long Lane, Stanwell (Nov. 22nd).

Midlothian.—Humble Farm, Kirknewton (Nov. 21st).

Norfolk.—Weybourne Road Allotments, Sheringham (Nov. 19th); West Farm, Attleborough (Nov. 20th); Garden Cottage, The Heath, Roughton (Nov. 21st); Church Farm, Necton, King's Lynn (Nov. 23rd).

Notts.—Main Street, Edingley, Newark (Nov. 20th); Jordans Castle Farm, Wellow, Newark (Nov. 24th).

Rutland.—Church Street, Ryhall, Stamford (Nov. 20th).

Staffs.—Green Farm, Fairoak, Eccleshall (Nov. 23rd).

Suffolk (E.).—Woods Loke, Lowestoft (Nov. 20th); 92, Charleston Road, Oulton Broad (Nov. 24th).

Worcs.—Yew Tree Cottage, Church Lane, Little Whitley (Nov. 21st); Bridgend Poultry Farm, Linthurst, Blackwell, Bromsgrove (Nov. 23rd).

Yorks (E.R.).—The Quarry, Meanwood, Leeds (Nov. 20th).

Yorks (W.R.).—22, Brown Lane Allotments, Leeds, 11; Hillfoot Farm, Galloway Lane, Pudsey (Nov. 19th); 16, Morley Lane, Milnsbridge; Hill Crest Farm, Roydhouse, Shelley (Nov. 21st).

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LEGAL NOTES

HOSPITAL COMMITTEE SUCCEED IN CLAIM AGAINST FARMER

On November 14th Judge Ernest Evans, at Caernarvon County Court, gave judgment for the Clwyd and Deeside Hospital Management Committee, in respect of a claim by them for £61 19s. arising out of the sale of an Ayrshire cow at Brynkir Cattle Auction on March 13th this year, to Thomas Owen Jones, a farmer, of Cefn Hendre, Llanwnda. It was stated that Jones found that the cow's udder was affected after it had calved and that it died three days after he bought it.

Mr. Emlyn Hooson, for Jones, alleged that there had been a breach of warranty given at the time of the sale that the cow was right and proper. He submitted that it had a slow developing disease that flared up on the birth of the calf. This he claimed led to the gangrene that was the cause of death.

Mr. F. Kenneth Ewart, for the Management Committee, said that if the cow had been suffering from the symptoms stated by the defendant at the time of sale, the merest baby would have detected them.

Mr. Frank Booth, a veterinary surgeon, who had been looking after the Committee's herd for the past 27 years, said the cows were clinically examined every month and any suspicion of udder trouble had to be reported immediately because the milk was supplied to the sanatorium at Abergele, where a large number of children were patients.

He examined the cow before it went to the sale and was satisfied that there were no signs of any disease. The cow, he added, had never been recorded in his books as suffering from any complaint at all.

The Judge said the cow was from a herd that was very carefully looked after, and it was impossible to imagine that an

experienced veterinary surgeon conducting a clinical examination every month would not have detected the symptoms of a disease.

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FOOT-AND-MOUTH DISEASE

On Saturday last it was announced that foot-and-mouth disease had been confirmed among the 37 pedigree bulls and two cows at the artificial insemination centre at Beccles, Suffolk. It was stated that this was the first time that there had been at outbreak of this disease at one of these centres. Foot-and-mouth disease was confirmed also among cattle at Darmsden, near Needham Market, Suffolk, and at Toft Monks and Gillingham, Norfolk.

An Order has been made applying the provisions of the Foot-and-Mouth Disease (Controlled Areas Restrictions) General Order of 1938 to an area comprising Rutland and parts of the counties of Leicester, Northampton, Salop, Stafford, Warwick and Worcester.

The controlled area has been declared in order to relieve the serious congestion in East Anglia of pigs ready for bacon factories in the Birmingham area. The Order empowers local authorities to issue licences for the movement of such pigs by rail only between Peterborough and Birmingham. Trucks and vehicles used in transit are required to be disinfected after use.

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DECLINE IN MILK QUALITY

In a paper, "Has the Chemical Quality of Milk Deteriorated?", presented to the Society of Public Analysts, Dr. J. G. Davis (reports the *Farmer & Stock-breeder*) presented graphs of changes in milk quality from 1900 onwards which were based on results of milk tests he had collected from public analysts throughout the country. He pointed out that methods of testing had been modified and that changes in milk quality varied between different parts of the country. But Dr. Davis concluded that there had been a definite decline in the solids-not-fat content of milk since 1930.

Although he gave no definite reason for this deterioration, Dr. Davis said changes in breed and breeding policies, the incidence of mastitis, machine milking and a fall in the number of producer-retailers may all have affected it.

With the increased knowledge and experience now available, Dr. Davis said the time had come for a complete revision of the statutory minimum standards laid down in 1901 and, in replying to questions, he reiterated, once more, that payment for milk on a total solids content was the best solution.

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TOO FEW HORSES?

"The question as to whether we were allowing horse-breeding to go too far down for the safety of production and transport in an emergency was posed by Mr. Tom Hutchison, of Aberdeen, last week," reports *Farming News* in its issue of November 16th. "Addressing farmers at Ellon, Mr. Hutchison, a farm mechanisation expert, asked what would happen if petrol and oil supplies were cut. It would take four years of intensive breeding to get the horse population back to anything like its former strength.

"He said that while Britain had the most highly mechanised farming industry in the world, food production per man employed was not as high as in America and some continental countries."

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R.S.I. CONGRESS PRESIDENT

The Right Hon. Lord Moran, M.C., M.D., F.R.C.P., has accepted the office of President of the Health Congress of the Royal Sanitary Institute, which is to take place at Margate from April 22nd to 25th, 1952.

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Mainly to encourage the movement of scientists within the Commonwealth, the British Commonwealth of Nations Scientific Liaison Offices in London have compiled a list of post-graduate scholarships for scientific study within the Commonwealth and open to members of at least two Commonwealth countries or Colonies. Copies of the list—*Inter-Commonwealth Post-graduate Scholarships in Science*—are obtainable in the United Kingdom, price 5s., from H.M. Stationery Office.

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Mr. J. R. Hindley has been appointed captain of the British Olympic equestrian three-day test team which will go into intensive training at Porlock in January. Mr. Hindley has recently been most successful in the one-day combined training events and, if he retains this form, is likely to ride at Helsinki next August. The final selection of the three British representatives will not be made for several months.

Following a debate on the rival claims of housing and agriculture for land a meeting of Keighley Town Council adopted an amendment directing the attention of the borough architect to housing sites within the borough itself rather than agricultural land in the outer districts.

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Lord Elton has introduced in the House of Lords a Bill to prohibit the manufacture, sale, use or custody of gin traps, and to regulate the setting of spring traps in the open.

CORRESPONDENCE

The views expressed in letters addressed to the Editor represent the personal opinions of the writer only and their publication does not imply endorsement by the N.V.M.A.

THE LEGITIMACY OF "ANAVENOL" AS AN ANAESTHETIC

Sir,—In previous correspondence, discussing the cardiotoxicity of "Anavenol" and to which to our surprise Mr. Parry has not responded, we raised the question of the validity of the claim that this agent is in any event a legitimate general anaesthetic. Our misgivings in this sense we know to be shared by others, and if we again refer to and quote from Mr. Parry's original paper (*Vet. Rec.* **62.** 500) it is for no other reason than that this is presumably the most authentic source of information.

According to Parry (*op. cit.*), "Anavenol" is of peculiar interest in that its action on the central nervous system is an *ascending* one, as contrasted with the familiar *descending* action of the legitimate anaesthetics, which act first on consciousness.

Curiously enough, the action of curare is also an ascending one. So, coincidentally, is the action of the synthetic paralysant "Myanesin" (B.D.H.), which has recently had mention in these columns and which, unlike curare but like "Anavenol," acts centrally on the nervous system. All three agents, curare notoriously, produce in their ways in medium dosage conditions hardly distinguishable, and in full dosage conditions indistinguishable, to the observer from authentic general anaesthesia.

After noticing that the drug's action is primarily spinal—a feature which we consider *prima facie* objectionable in all like agents intended for use on animals, and particularly the large animals—Parry makes the following impressive statement: "The drug probably acts first on multineuronal sensory and motor circuits in the spinal cord; later, with higher concentrations, the higher brain centres and smaller spinal circuits involving two or three neurones only are affected" (*op. cit.*).

We would ask Mr. Parry on what shred of scientific evidence he bases this suggestion? What unspecified technique, we wonder, permits him to discern that the drug has any action at all on the sensory side of the central nervous system? That there is action on the motor side is self-evident. But we are unaware of any known means of assessing collateral action on the sensory or afferent neuronal circuits in circumstances where the motor-responses, whether voluntary or reflex, are or may be blocked as here. (Excluding electro-encephalography, clinically inapplicable in animals anyway, and seemingly also not invoked in the laboratory assay of this drug, as it might profitably have been.)

It is abundantly evident that Mr. Parry's assumption of states of anaesthesia is based solely on the crude objective signs and the appearances. As he himself puts it, ". . . the animal appears to be completely unconscious." This is not good enough. And we deplore the necessity of designating to Mr. Parry the age-old fallacy involved in accepting the appearances in these contexts. Curarization and its implications are surely sufficiently classical?

The assumption of general anaesthesia with "Anavenol" might have some small warranty if the familiar objective signs were of the same pattern as for general anaesthesia, but they are not. Apart from the drug's dubious and undesirable ascending action, which as already noticed alienates it from the acknowledged anaesthetics while aligning it with acknowledged paralysants, Mr. Parry emphasises that "the sequence of changes in ocular reflexes and movements differs considerably from those associated with most anaesthetics." Where, then, are we? None of the familiar patterns or signs of anaesthesia obtains and our only reassurance in the matter is Mr. Parry's personal conviction. Probing farther, however, we discover and to our dismay what are the signs actually solicited by him for evaluating the degree of alleged anaesthesia, as where he recommends watching for "the horizontal nystagmus which develops in Plane 2 surgical anaesthesia" (*op. cit.*). We will overlook the technical error here involved in applying Guedel's classification of the levels of anaesthesia, which is properly referable

only to the *inhalation* anaesthetics, to what is an essentially intravenous method. But we are compelled to ask Mr. Parry, since when has nystagmus been a sign of medium-depth surgical anaesthesia? With the inhalation-anaesthetics nystagmus signifies induction and sub-surgical or the lightest surgical levels. With the intravenous anaesthetics it can signify even less, never in any circumstances a medium surgical level. Indeed one of us (E. O. L.) has witnessed transient marked nystagmus *in the conscious standing animal* (horse) where a dose of thiopentone inadequate to cast the animal was administered. And of course nystagmus *qua* nystagmus, and out of the context of true anaesthesia, carries no implications whatever of interference with consciousness.

What, then, we are forced to ask, are the implications of Mr. Parry's horizontal nystagmus, unless that he is prescribing surgical operation on animals at less than adequate surgical levels of anaesthesia? Supporting this conclusion, and in further offence of conventional anaesthetic lore, is his observation that what he describes as *deep* surgical anaesthesia "allows section of the large peripheral nerves *with very little movement*" (*op. cit.*). The italics are our own, to emphasise our aversion to the practice of neurotomy in horses where the provision of complete anaesthesia is open to any question. In true deep anaesthesia, we would like Mr. Parry to realise, neurotomy is attended by *no movement whatsoever*.

Space prohibits elaboration here of other important propositions that are involved in this discussion. We do not pretend to assert that "Anavenol" is not and cannot be a general anaesthetic in the horse. To do so would be to assume the mantle of fictitious insight of those who contend that it is. We simply maintain that the state of consciousness under "Anavenol" is entirely unknown; that Parry's claim for anaesthesia is unproven, unscientific and presumptive; what time there exists a formidable body of evidence to sustain grave suspicions of the anaesthesia-hypothesis in terms even of Mr. Parry's own representations. To which there is to add that one of us (T. N. G.), employing the drug in three horses at Mr. Parry's request, under Mr. Parry's personal direction and to his evident satisfaction, was so adversely impressed both in the above sense, and as regards the side-effects witnessed (*not* mentioned in Mr. Parry's paper), that nothing would persuade him to repeat the performance.

But this letter is intended less to attack "Anavenol" as such than to argue the general case which "Anavenol" illustrates. It is our view that chemical agents designated anaesthetics for use in animals should not be advocated by professional scientific workers, nor issued by responsible commercial houses, without incontrovertible evidence of an adequate anaesthetic action. We believe that proof of a legitimate anaesthetic action is the first prerequisite for such issue, the burden of proof resting entirely with the protagonists of the innovation. We maintain that the issue and sale of such agents otherwise, violates essential humane principles which it is a prime duty of this profession to sustain. And that this is a procedure which if not eschewed voluntarily should be prescribed by law. The admixture of such agents with sub-anaesthetic doses of the established anaesthetics, as in "Anavenol-K," makes confusion only the worse confounded and is equally to be condemned.—Yours faithfully, T. N. Gold, E. O. Longley. *November 14th*, 1951.

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CURARIZING DRUGS

Sir,—The correspondence on curarizing drugs raises a number of interesting points. The misstatement to which Mr. Longley draws attention regarding the mode of action of Myanesin was so obviously erroneous that I had dismissed it as a slip of the pen.

I think undue alarm need not be felt at the suggestion that Myanesin might be used alone to aid abdominal palpation; inherent in question and answer was the possibility of a very small dose of Myanesin being sufficient to prevent the voluntary tensing of abdominal musculature in nervous patients in which for any reason it is undesirable to induce anaesthesia for palpation alone. In point of fact in the light of my very limited experience of curarizing drugs I doubt if relaxation of abdominal muscles would be obtained without other undesirable effects being manifest.

Following Mrs. Sheppard's recommendation of the drug I tried it out in two surgical cases in dogs. I see absolutely no need for a muscle relaxant in cats since adequate relaxation is obtained with any of the routine anaesthetics in this subject; in the dog, however, particularly in deep-bodied breeds, additional relaxation of abdominal muscles can be most helpful.

As a result of my experience in these two cases I have no hesitation in abandoning any further attempt to use Myanesin as an adjunct to anaesthesia. One dog was young and an excellent surgical risk, the second over middle life and a bad surgical risk. In both the effect of Myanesin was similar. I did not note any additional muscle relaxation, but the effects on the cardio-vascular system were alarming; these were noted about three-quarters of an hour after administration of the drug, the visible mucous membranes became pallid to such a degree that severe internal haemorrhage was suspected (but did not exist), heart and pulse were slowed and rhythm lost and the animals gave every appearance of the most profound surgical shock. I do not recall ever being so worried over the immediate post-operative period during my clinical career. In the young dog recovery took place slowly over a period of eight to nine hours; the older dog died 12 hours after the operation, and although its chances of survival were probably negligible I am convinced that the cardio-vascular action of the Myanesin hastened death.

I am in complete agreement with Mr. Longley in his final condemnation of Myanesin as an adjunct to anaesthesia hard on my fortunately small clinical experience of its use. I should also like to associate myself with the doubts expressed by Mr. Gold and himself as to the correctness of designating Anavenol as an anaesthetic.—Yours faithfully, Joan O. Joshua, 78, Brentway, Finchley, N.3. *November 24th*, 1951.

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HUSK

Sir,—I am very sorry indeed to find to my surprise that I had made an utterance that could have hurt my very good friend R. H. Smythe. On reference to the records, however, I see that the statement in his letter is quite correct and that what I had said in a flippant way at a very pleasant provincial meeting has taken on another form merely by appearing in print and away from its original background of smiling faces. How easily are our intentions betrayed by mere words alone! Reference to his 1937 publication shows a well-arranged paragraph on the *mechanical* danger from bunches of dead worms and a conclusion, emphasised by appearing in italics, that "so far the value of all treatments calculated to destroy lungworms has lain in their inefficiency" because of the danger of asphyxiation in a very sick animal.—Yours faithfully, E. L. Taylor, Veterinary Laboratory, Ministry of Agriculture.

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VICTORIA VETERINARY BENEVOLENT FUND

Christmas Gift Appeal

Sir,—It is customary at this time of the year to ask you kindly to allow us space in your journal for the purpose of reminding members of the profession of the Christmas Gift Fund from which we are enabled to make gifts to our recipients, thus affording them the opportunity of securing those little extra comforts during Christmas.

May we therefore earnestly appeal to members to forward us a small donation for this Fund, or if it is preferred to send gifts in kind to one or more of our recipients, the Secretary will, on application, be happy to provide names and addresses to whom the gifts will be very acceptable.

Please send cheques, etc., made payable to the Victoria Veterinary Benevolent Fund Christmas Fund account, to the Secretary, V.V.B. Fund, 10, Red Lion Square, London, W.C.1, who will gratefully acknowledge receipt.—Yours faithfully, P. J. Simpson, *President*, J. B. Buxton, *Hon. Treasurer*, A. Spicer, *Hon. Secretary*, 10, Red Lion Square, London, W.C.1. *November 22nd*, 1951.

DISEASES OF ANIMALS ACT, 1950—GREAT BRITAIN

Summary of Returns of Confirmed Outbreaks of Scheduled (Notifiable) Diseases

Period	Anthrax	Foot-and-mouth	Fowl Pest	Parasitic Mange*	Sheep Scab	Swine Fever
Oct. 16th to 31st, 1951	7	—	43	—	—	97
Corresponding period in—						
1950	12	—	4	—	2	32
1949	18	—	55	—	—	—
1948	9	—	2	—	—	1
Jan. 1st to Oct. 31st, 1951	339	28	653	—	5	1,122
Corresponding period in—						
1950	297	20	107	—	23	242
1949	195	13	510	—	34	5
1948	93	2	252	1	52	25

* Excluding outbreaks in Army Horses.